LOIMOLOGIA:

OR, AN

Historical Account

OF THE

Plague in *London* in 1665:

With precautionary Directions againſt the like *Contagion*.

By NATH. HODGES, M. D.

And Fellow of the College of Phyſicians, who reſided in the City all that Time.

To which is added, An

ESSAY

On the different Cauſes of PESTILENTIAL DISEASES, and how they become Contagious:

WITH

REMARKS

On the Infection now in FRANCE, and the moſt probable Means to prevent its Spreading here.

By JOHN QUINCY, M. D.

The Third Edition, with large Additions.

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THE PREFACE.

IT *may be needleſs to acquaint the* Reader *with any Motives for the Publication of the following* Sheets *at this Time: The Alarm we have of late been juſtly under from a moſt terrible Deſtroyer in a neighbouring Kingdom, very naturally calls for all poſſible Precautions againſt its Invaſion and Progreſs here; inſomuch that the meaneſt Helps to this End ought to be contributed, as they may prove ſerviceable in ſome Exi-*

Exigencies or other; and I cannot but be ſomewhat pleaſed, that my Intentions to this Purpoſe, from the following Tranſlation, have ſo far proved acceptable, that Two *Impreſſions of it have been taken off in a very ſhort Time.*

THE following Treatiſe *of* Dr. Hodges *contains the beſt Account of the late Viſitation by a* Plague *here in* England, *of any hitherto extant; although ſome Readers may obſerve, that his Style and Perſpicuity have been very much hurt by the Enthuſiaſtick Strain of thoſe Times wherein he wrote; ſuch an Influence had the Spirit of Deluſion, even over Matters of Science: However, the moſt affected Peculiarities and Luxuriancies of that kind are ſo much avoided, that I flatter my ſelf with having made the Tranſlation much more pleaſant and intelligible than the* Original, *even to a Learned Reader.*

THE

THE Revival of this Treatiſe, *and the common Inclination to be informed concerning this Subject, on the preſent Occaſion, have, I perceive, drawn out many Things into Light, which have had a long Repoſe in Duſt and Oblivion; but the Authors of ſuch Diſcoveries ſeem to have had more Regard to the Gratification of particular Reſentments, than to any laudable Purpoſes to ſerve the Publick; and have taken more Pains in their Prefaces to thruſt themſelves into Conſideration, by a very ill Treatment of their Betters, than by any real Aſſiſtances againſt the common Danger: But an ordinary Reader may eaſily diſtinguiſh the froward Petulances of an invidious Temper, and the Itch of Contradiction; from true Merit, and the generous Communication of uſeful Knowledge.*

LOIMO-

LOIMOLOGIA.

OR, AN

ACCOUNT

SECTION I.

Of the Rise and Progress of the late PLAGUE.

THE Plague which we are now to give an Account of, discovered the Beginnings of its future Cruelties, about the Close of the Year 1664; for at that Season two or three Persons died suddenly in one Family at *Westminster*, attended

tended with ſuch Symptoms, as manifeſtly declared their Origin: Hereupon ſome timerous Neighbours, under Apprehenſions of a Contagion, removed into the City of *London*, who unfortunately carried along with them the peſtilential Taint; whereby that Diſeaſe, which was before in its Infancy, in a Family or two, ſuddenly got Strength, and ſpread Abroad its fatal Poiſons; and meerly for Want of confining the Perſons firſt ſeized with it, the whole City was in a little Time irrecoverably infected. Not unlike what happened the Year following, when a ſmall Spark, from an unknown Cauſe, for Want of timely Care, increaſed to ſuch a Flame, that neither the Tears of the People, nor the Profuſion of their *Thames*, could extinguiſh; and which laid Waſt the greateſt Part of the City in three Days Time: And therefore as there happens to be no great Difference between theſe two grievous Calamities, this Mention of them together may not be improper; and the more eſpecially, becauſe by a like irreſiſtable Fate from a Fever and a Conflagration, both the Inhabitants and their Houſes were reduc'd to Aſhes.

BUT

BUT as ſoon as it was rumoured amongſt the common People, who are always enough aſtoniſhed at any Thing new, that the Plague was in the City, it is impoſſible to relate what Accounts were ſpread of its Fatality, and well were it, had not the Preſages been ſo ominous; every one predicted its future Devaſtations, and terrified each other with Remembrances of a former Peſtilence; for it was a received Notion amongſt the common People, that the Plague viſited *England* once in Twenty Years; as if after a certain Interval, by ſome inevitable Neceſſity, it muſt return again. But although this Conceit, how well ſoever juſtify'd by paſt Experiences, did not ſo much obtain with Perſons of more Judgment, yet this may be affirmed, that it greatly contributed, amongſt the Populace, both to propagate and inflame the Contagion, by the ſtrong Impreſſions it made upon their Minds.

AND theſe frightful Apprehenſions were not a little increaſed by the Predictions of Aſtrologers, from the Conjunctions of Stars, and the Appearances of Comets;

for although but little Regard was given to ſuch Things by Perſons of Thought, yet Experience daily ſhewed, what Influence they had with the meaner Sort, whoſe Spirits being manifeſtly ſunk by ſuch Fears, rendered their Conſtitutions leſs able to reſiſt the Contagion. Whoſoever duly conſiders it, can never imagine that this Peſtilence had its Origin from any Conjunction of *Saturn* and *Jupiter* in *Sagitarius* on the Tenth of *October*, or from a Conjunction of *Saturn* and *Mars* in the ſame Sign on the Twelfth of *November*, which was the common Opinion; for all the Good that happens during the like Conjunctions is aſſignable to the ſame Cauſes.

THE like Judgment is to be made of Comets, how terrible ſoever they may be in their Aſpects, and whether they are produced in the higher Regions from a Conglomeration of many Stars, and returning at certain Periods; or whether they are lower, and the Production of ſulphureous Exhalations, kindled in our own Atmoſphere; For there is nothing ſtrange in the Accenſion of heterogeneous Particles into a Flame, upon their rapid Occurſions and Colliſions againſt each other, howſoever

terrible the Tracks of ſuch Light may be circumſtanced. The People therefore were frightned without Reaſon at ſuch Things, and the Miſchief was much more in the Predictions of the Star-Gazers, than in the Stars themſelves: Nothing could however conquer theſe ſad Impreſſions, ſo powerful were they amongſt the Populace, who anticipated their unhappy Fate with their Fears, and precipitated their own Deſtruction.

BUT to paſs by Things of leſs Moment, it is to be noted, that a very hard Froſt begun in *December*, which continued three Months, and ſeemed greatly to deaden the Contagion, and very few died during that Seaſon; although even then it was not extinguiſhed, for in the Middle of *Chriſtmas* Holy-Days, I was called to a Young-Man in a Fever, who after two Days Courſe of Alexiterial Medicines, had two Riſings about the Bigneſs of a Nutmeg broke out, one on each Thigh; upon Examination of which, I ſoon diſcovered the Malignity, both from their black Hue, and the Circle round them, and pronounced it to be the Plague; in which Opinion I was afterwards confirmed

by ſubſequent Symptoms, although by God's Bleſſing the Patient recovered.

THIS Caſe I inſert, to ſhew that this Seaſon did not wholly deſtroy the Diſtemper, although it greatly reſtrained it; but upon the Froſt breaking, the Contagion gained Ground, and gradually got out of its Confinements; like a Flame that for ſome Time ſeems ſmother'd, and ſuddenly breaks out with aggravated Fury.

AS ſoon as the Magiſtracy, to whom the publick Care belonged, ſaw how the Contagion daily increaſed, and had now extended it ſelf to ſeveral Pariſhes, an Order was immediately iſſued out to ſhut up all the infected Houſes, that neither Relations nor Acquaintance might unwarily receive it from them, and to keep the infected from carrying it about with them.

BUT whether this Method proved of Service or not, is to this Day doubtful, and much diſputed; but however it is my Buſineſs here to adhere to Facts, and relate the Arguments on both Sides with all poſſible Impartiality.

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IN Order whereunto, it is to be obſerv'd, that a Law was made for marking the Houſes of infected Perſons with a Red Croſs, having with it this Subſcription, LORD HAVE MERCY UPON US: And that a Guard ſhould attend there continually, both to hand to the Sick the Neceſſaries of Food and Medicine, and to reſtrain them from coming Abroad until Forty Days after their Recovery. But although the *Lord Mayor* and all inferior Officers readily and effectually put theſe Orders in Execution, yet it was to no Purpoſe, for the Plague more and more increaſed; and the Conſternation of thoſe who were thus ſeparated from all Society, unleſs with the infected, was inexpreſſible; and the diſmal Apprehenſions it laid them under, made them but an eaſier Prey to the devouring Enemy. And this Seclusion was on this Account much the more intolerable, becauſe if a freſh Perſon was ſeized in the ſame Houſe but a Day before another had finiſhed the Quarentine, it was to be performed over again; which occaſion'd ſuch tedious Confinements of ſick and well together, as ſometimes cauſed the Loſs of the whole.

BUT what greatly contribued to the Loſs of People thus ſhut up, was the wicked Practices of Nurſes (for they are not to be mention'd but in the moſt bitter Terms); Theſe Wretches, out of Greedineſs to plunder the Dead, would ſtrangle their Patients, and charge it to the Diſtemper in their Throats; others would ſecretly convey the peſtilential Taint from Sores of the infected to thoſe who were well; and nothing indeed deterred theſe abandoned Miſcreants from proſecuting their avaritious Purpoſes by all the Methods their Wickedneſs could invent; who, although they were without Witneſſes to accuſe them, yet it is not doubted but divine Vengeance will overtake ſuch wicked Barbarities with due Puniſhment: Nay, ſome were remarkably ſtruck from Heaven, in the Perpetration of their Crimes, and one particularly amongſt many, as ſhe was leaving the Houſe of a Family, all dead, loaded with her Robberies, fell down dead under her Burden in the Streets: And the Caſe of a worthy Citizen was very remarkable, who being ſuppoſed dying by his Nurſe, was before-hand ſtripped by her; but Recovering again, he came a ſecond

Time

Time into the World naked. And ſo many were the Artifices of theſe barbarous Wretches, that it is to be hoped, Poſterity will take Warning how they truſt them again in like Caſes; and that their paſt Impunities will not be a Means of bringing on us again the like Judgment.

MOREOVER, this ſhutting up infected Houſes, made the Neighbours fly from theirs, who otherwiſe might have been a Help to them on many Accounts; and I verily believe that many who were loſt might have now been alive, had not the tragical Mark upon their Doors drove proper Aſſiſtances from them.

AND this is confirmed by the Examples of other peſtilential Contagions, which have been obſerved not to ceaſe, until the Doors of the Sick were ſet open, and they had the Privilege of going Abroad; of the ſame Authority is the Cuſtom of other Nations, who have due Regard to that Liberty which is neceſſary for the Comforts both of Body and Mind.

IT now remains that we take Notice of all that is of any Weight on the other Side;

Side; as therefore it is not at all deemed cruel to take off a mortify'd Limb to ſave the whole, by a Parity of Reaſon is the Conduct of a Commmnity juſtifyable, who, out of a Regard to the Publick Good, put Hardſhips upon particular Perſons; in a peſtilential Contagion therefore, what can be of more immediate Service than ſecuring thoſe that are well from the Infection? And the more eſpecially in a Diſeaſe that reaches not only the Body, but taints the very Breath; for in this Caſe the infected Breath poiſons upon the healthful, and even at the Point of Death endeavour to diffuſe that Venom to others which conquer'd them. From this delirious Pleaſure ariſe thoſe Tricks of tranſplanting the Corruption of a peſtilential Tumour to another; not to ſay any Thing of that Woman, who by her Importunities drew her unhappy Husband into her Embraces, which ended his Life with hers.

AGAIN, to take away all Doubtings in this Caſe, I am not ignorant of what Moment it is, to ſhut up the Houſes of all thoſe who are infected, according to Cuſtom; for by this means a Contagion may at firſt be ſtifled, which otherwiſe would go beyond any

any Remedy; and with equal Advantage might Gun-Powder be fired, if too much Time is not waſted in Deliberation, before theſe Things are put into Practice.

BUT if hereafter a Plague ſhould break out again, (which God forbid) with Submiſſion to Superiors, I ſhould think it not improper to appoint proper Accommodations out of the City, for ſuch as are yet untouched in infected Families; and who ſhould continue there for a certain Time; the Sick in the mean while to be removed to convenient Apartments provided on Purpoſe for them: For by this Means, that Practice ſo abhorrent to Religion and Humanity, even in the Opinion of a *Mahometan*, of ſhutting up the ſick and well together, would be avoided.

BUT to return: The Infection had long doubtfully reign'd, and continued through *May* and *June*, with more or leſs Severity; ſometimes raging in one Part, and then in another, as in a running ſort of Fight; as often as the Number of Funerals decreaſed, great Hopes were conceived of its Diſappearance; then on a ſudden again their Increaſe threw all into Dejection, as if the whole City

was ſoon to be unpeopled; which Uncertainty gave Advantage to the Diſtemper; becauſe Perſons were more remiſs in their Proviſions againſt it, during ſuch Fluctuation.

IT muſt not however be omitted, with what Precipitation the trembling Inhabitants left the City, and how they flocked in ſuch Crowds out of Town, as if *London* had quite gone out of it ſelf, like the Hurry of a ſudden Conflagration, all Doors and Paſſages are thronged for Eſcape: And after the chief of the People were fled, and thereby the Nouriſhment of this cruel Enemy had been in a great Meaſure taken away, yet it raged ſtill; and although it ſeemed once to ſlay as *Parthians* in their Flight, it ſoon returned with redoubled Fury, and kill'd not by ſlow Paces, but almoſt immediately upon Seizure; not unlike what is often ſeen in Battle, when after ſome Skirmiſhes of Wings, and ſeparate Parties, the main Bodies come to engage; ſo did this Contagion at firſt only ſcatter about its Arrows, but at laſt covered the whole City with Death.

THUS therefore in the Space of one Week were eight Thouſand Perſons cut off, and

when

when Things came to Extremity, all Helps were called in; ſo it began now to be ſolely the Magiſtrates Buſineſs, how to put a Stop to this cruel Devaſtation, and ſave ſome Part of the City at leaſt from the Grave; firſt then therefore was appointed a Monthly Faſt for Publick Prayers, to deprecate the Anger of Heaven; nor proved it in vain, or were their Supplications altogether fruitleſs; for if we have any Regard to the Temperature of the Seaſon, the whole Summer was refreſhed with moderate Breezes, ſufficient to prevent the Air's Stagnation and Corruption, and to carry off the peſtilential Steams; the Heat was likewiſe too mild to encourage ſuch Corruption and Fermentation, as helps to taint the animal Fluids, and pervert them from their natural State.

THE Government however, to the Duty of Publick Prayers, neglected not to add what Aſſiſtances might be had from Medicine; to which Purpoſe his Majeſty, with the divine Helps, called in alſo all that was humane; and by his Royal Authority commanded the College of Phyſicians of *London*, jointly to write ſomewhat in *Engliſh* that might be a general Directory in this

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calamitous Exigence: Nor was it ſatisfactory to that honoured Society to diſcharge their Regards for the Publick in that only, but ſome were choſe out of their Number, and appointed particularly to attend the infected on all Occaſions, two alſo out of the Court of Aldermen were required to ſee this hazardous Task executed; ſo that encouraged with all proper Means, this Province was chearfully undertaken, and all poſſible Caution was uſed fully to anſwer the Intention; but this Task was too much for four Perſons, and wanted rather the Concurrence of the whole Faculty; we were however aſhamed to give it up, and uſed our utmoſt Application therein; but all our Care and Pains were eluded, for the Diſeaſe, like the *Hydra*'s Heads, was no ſooner extinguiſh'd in one Family, but it broke out in many more with Aggravations; ſo that in a little Time we found our Task too great, and deſpaired of putting an entire Stop to the Infection.

NOR was there at this Time wanting the Help of very great and worthy Perſons, who voluntarily contributed their Aſſiſtances in this dangerous Work; amongſt the Number of which, the learned

Dr.

Dr. *Gliſſon*, *Regius* Profeſſor at *Cambridge*, Dr. *Nath. Paget*, Dr. *Wharton*, Dr. *Berwick*, Dr. *Brookes*, and many others who are yet alive, deſerve very honourable Mention; but eight or nine fell in this Work, who were too much loaded with the Spoils of the Enemy; and amongſt whom was Dr. *Conyers*, whoſe Goodneſs and Humanity claim an honourable Remembrance with all who ſurvive him.

AFTER then all Endeavours to reſtrain the Contagion proved of no Effect, we applied our ſelves altogether to the Care of the diſeaſed; and in the Proſecution of which, it may be affirmed without Boaſting, no Hazards to our ſelves were avoided: But it is incredible to think how the Plague raged amongſt the common People, inſomuch that it came by ſome to be called the *Poors Plague*; yet although the more opulent had left the Town, and it was almoſt left uninhabited, the Commonalty that were left felt little of Want; for their Neceſſities were relieved with a Profuſion of good Things from the Wealthy, and their Poverty was ſupported with Plenty; a more manifeſt Cauſe therefore for ſuch a Devaſtation amongſt them I ſhall aſſign in another Place.

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IN the Months of *Auguſt* and *September*, the Contagion chang'd its former ſlow and languid Pace, and having as it were got Maſter of all, made a moſt terrible Slaughter, ſo that three, four, or five Thouſand died in a Week, and once eight Thouſand; who can expreſs the Calamities of ſuch Times? The whole *Britiſh* Nation wept for the Miſeries of her Metropolis. In ſome Houſes Carcaſes lay waiting for Burial, and in others, Perſons in their laſt Agonies; in one Room might be heard dying Groans, in another the Ravings of a Delirium, and not far off Relations and Friends bewailing both their Loſs, and the diſmal Proſpect of their own ſudden Departure; Death was the ſure Midwife to all Children, and Infants paſſed immediately from the Womb to the Grave; who would not melt with Grief, to ſee the Stock for a future Generation hang upon the Breaſts of a dead Mother? Or the Marriage-Bed changed the firſt Night into a Sepulchre, and the unhappy Pair meet with Death in their firſt Embraces? Some of the infected run about ſtaggering like drunken Men, and fall and expire in the Streets; while others lie half-dead and comatous, but never

never to be waked but by the laſt Trumpet; ſome lie vomiting as if they had drank Poiſon; and others fall dead in the Market, while they are buying Neceſſaries for the Support of Life. Not much unlike it was the following Conflagration; where the Altars themſelves became ſo many Victims, and the fineſt Churches in the whole World carried up to Heaven Supplications in Flames, while their Marble Pillars, wet with Tears, melted like Wax; nor were Monuments ſecure from the inexorable Flames, where many of their venerable Remains paſſed a ſecond Martyrdom; the moſt auguſt Palaces were ſoon laid Waſte, and the Flames ſeemed to be in a fatal Engagement to deſtroy the great Ornament of Commerce; and the Burning of all the Commodities of the World together, ſeemed a proper Epitome of this Conflagration; neither confederate Crowns, nor the drawn Swords of Kings, could reſtrain its Phanatick and Rebellious Rage; large Halls, ſtately Houſes, and the Sheds of the Poor, were together reduced to Aſhes; the Sun bluſh'd to ſee himſelf ſet, and envied thoſe Flames the Government of the Night, which had rivalled him ſo many Days;

as the City, I ſay, was afterwards burnt without any Diſtinction, in like Manner did this Plague ſpare no Order, Age, or Sex; The Divine was taken in the very Exerciſe of his prieſtly Office, to be inrolled amongſt the Saints Above; and ſome Phyſicians, as before intimated, could not find Aſſiſtance in their own Antidotes, but died in the Adminiſtration of them to others; and although the Soldiery retreated from the Field of Death, and encamped out of the City, the Contagion followed, and vanquiſh'd them; many in their old Age, others in their Prime, ſunk under its Cruelties; of the Female Sex moſt died; and hardly any Children eſcaped; and it was not uncommon to ſee an Inheritance paſs ſucceſſively to three or four Heirs in ſo many Days; the Number of Sextons were not ſufficient to bury the Dead; the Bells ſeemed hoarſe with continual tolling, until at laſt they quite ceaſed; the burying Places would not hold the Dead, but they were thrown into large Pits dug in waſte Grounds, in Heaps, thirty or forty together; and it often happened, that thoſe who attended the Funerals of their Friends one Evening, were carried the next to their own long Home:

Quis

——— *Quis talia fundo*
Temperet à Lachrymis? ———

Even the Relation of this Calamity melts me into Tears, although the worſt was not yet certain, for the City was not yet drained by her Funerals; nor the Diſeaſe as yet at all relaxed.

ABOUT the Beginning of *September*, the Diſeaſe was at the Height; in the Courſe of which Month, more than twelve Thouſand died in a Week: But at length, that nothing might go untried to divert the Contagion, it was ordered by the Governours, who were left to ſuperintend thoſe calamitous Affairs, (for the Court was then removed to *Oxford*) to burn Fires in the Streets for three Days together; yet while this was in Debate, the Phyſicians concerned were diffident of the Succeſs, as the Air in it ſelf was un-infected; and therefore rendred ſuch a ſhowy and expenſive a Project ſuperfluous, and of no Effect; and theſe Conjectures we ſupported by the Authority of Antiquity, and *Hippocrates* himſelf; notwithſtanding which, the Fires were kindled in

all the Streets. But alas! the Controverſie was ſoon decided; for before the three Days were quite expired, the Heavens both mourned ſo many Funerals, and wept for the fatal Miſtake, ſo as to extinguiſh even the Fires with their Showers. I ſhall not determine any other Perſon's Conjecture in this Caſe, whether theſe Fires may more properly be deemed the ominous Forerunners of the enſuing Conflagration, or the enſuing Funerals; but whether it was from the ſuffocating Qualities of the Fuel, or the wet Conſtitution of Air that immediately followed, the moſt fatal Night enſued, wherein more than four Thouſand expired. May Poſterity by this Miſtake be warned, and not, like Empyricks, apply a Remedy where they are ignorant of the Cauſe.

THE Reader is by the Way to be advertiſed, that this Year was luxuriant in moſt Fruits, eſpecially Cherries and Grapes, which were at ſo low a Price, that the common People ſurfeited with them; for this might very much contribute to that Diſpoſition of Body, as made the Peſtilential Taint more eaſily take Place.

NOR

NOR ought we here to paſs by the beneficent Aſſiſtances of the Rich, and the Care of the Magiſtrates; for the Markets being open as uſual, and a greater Plenty of all Proviſions, was a great Help to ſupport the Sick; ſo that there was the Reverſe of a Famine, which hath been obſerved to be ſo fatal to peſtilential Contagions; and in this the Goodneſs of Heaven is always to be remembred, in alleviating a common Miſery by ſuch a Profuſion of good Things from the Stores of Nature.

BUT as it were to balance this immediate Help of Providence, nothing was otherwiſe wanting to aggravate the common Deſtruction; and to which nothing more contributed than the Practice of Chymiſts and Quacks, and of whoſe Audacity and Ignorance it is impoſſible to be altogether ſilent; they were indefatigable in ſpreading their Antidotes; and although equal Strangers to all Learning as well as Phyſick, they thruſt into every Hand ſome Traſh or other under the Diſguiſe of a pompous Title. No Country ſure ever abounded with ſuch

wicked Impoſtors; for all Events contradicted their Pretenſions, and hardly a Perſon eſcaped that truſted to their Deluſions: Their Medicines were more fatal than the Plague, and added to the Numbers of the Dead: But theſe Blowers of the Peſtilential Flames were caught in the common Ruin, and by their Death in ſome Meaſure excuſed the Neglect of the Magiſtracy, in ſuffering their Practice.

—— Nec Lex eſt juſtior ullâ
Quàm necis Artifices Arte perire ſuâ.

ABOUT this Time a Perſon of Diſtinction and great Humanity, going to *France* upon ſome Affairs of State, heard that ſome *Frenchmen* were Maſters of an Anti-peſtilential Remedy, and took Care to ſend ſome Doſes of it over here: By Command of the Government we were ordered to try it with due Caution, which we did, with Expectations of uncommon Succeſs, but *the Mountain brought forth Death*; for the Medicine, which was a Mineral Preparation, threw the Patients into their laſt Sleep. May it never hereafter be injoined to try Experiments with unknown and foreign Medicines, upon the Lives even of

of the meaneſt Perſons! For certainly nothing is more abhorrent to Reaſon, than to impoſe a univerſal Remedy, in Caſes whoſe curative Intentions are different, and ſometimes oppoſite; and the various Indications of a Peſtilence require very different Methods of Remedy, as ſhall hereafter be further demonſtrated.

TO this may be added, that many common Medicines were publickly Sold, which, by their extraordinary Heat and Diſpoſition to inflame the Blood, could never be fit for every Age, Sex, and Conſtitution indifferently, and therefore in many Caſes they undoubtedly did Harm. On this Account, not only the *Sacred Art*, but the *Publick Health* alſo ſuffered; yet we who were particularly employed in this Affair as Phyſicians, uſed all Sollicitations with the Magiſtracy to reſtrain ſuch Practices, in Order to ſtop the Ruin they aggravated. Hence notwithſtanding it was made a Queſtion, whether in a Plague, where ſo many Phyſicians retire, (not ſo much for their own Preſervation, as the Service of thoſe whom they attend) it is not expedient for every one, according to his Abilities, to do his ut-

moſt in averting the common Ruin? In the ſame Manner as in a Fire all Hands are required, even of the Croud as well as Workmen, to extinguiſh it.

BUT in this Caſe my own Opinion is determined: In the Concerns of Health, a Perſon muſt proceed with more Caution and Deliberation than in the ſuppoſed Caſe of a Fire; for there are Difficulties occur in the Practice of Medicine which are inſuperable but by the Learned; and the fine Texture of a humane Body is not to be managed by as clumſie Hands as the Materials of a Houſe; in the former, if a Perſon makes a Miſtake, it is with great Difficulty repaired; and therefore upon a ſerious Conſideration of the whole Affair, I cannot make any Doubt, but that it is much better even to want Phyſicians in ſuch Calamities, than to have the Sick under the Care and Management of the unlearned; for ſuch Perſons, like thoſe who fight blindfold, know not in what Parts to attack the Enemy, nor with what Weapons to do it; beſides which, they alſo are in Hazard of obſtructing theſe Efforts of Nature, which would many Times, without Help, if not thus hindred, get the better of the Diſtemper.

NOR

NOR in this Account are we to neglect, that the Contagion ſpread its Cruelties into the neighbouring Countries; for the Citizens, which crowded in Multitudes into the adjacent Towns, carried the Infection along with them, where it raged with equal Fury; ſo that the Plague, which at firſt crept from one Street to another, now reigned over whole Counties, leaving hardly any Place free from its Inſult; and the Towns upon the *Thames* were more ſeverely handled, not perhaps from a greater Moiſture in the Air from thence, but from the tainted Goods rather that were carried upon it: Moreover, ſome Cities and Towns, of the moſt advantageous Situation for a wholſome Air, did notwithſtanding feel the common Ruin. Such was the Riſe, and ſuch the Progreſs, of this cruel Deſtroyer, which firſt began at *London*.

BUT the worſt Part of the Year being now over, and the Height of the Diſeaſe, the Plague by leiſurely Degrees declined, as it had gradually made its firſt Advances; and before the Number infected decreaſed, its Malignity began to relax, inſomuch that few died, and thoſe chiefly ſuch as

were

were ill managed; hereupon that Dread which had been upon the Minds of the People wore off; and the Sick chearfully uſed all the Means directed for their Recovery; and even the Nurſes grew either more cautious, or more faithful; inſomuch that after ſome Time a Dawn of Health appeared, as ſudden, and as unexpected, as the Ceſſation of the following Conflagration; wherein after blowing up of Houſes, and uſing all Means for its Extinction to little Purpoſe, the Flames ſtopped as it were of themſelves, for Want of Fuel, or out of Shame for having done ſo much Miſchief.

THE Peſtilence did not however ſtop for Want of Subjects to act upon, (as then commonly rumoured) but from the Nature of the Diſtemper, its Decreaſe was like its Beginning, moderate; nor is it leſs to be wondred at, that as at the Riſe of the Contagion all other Diſtempers went into That, ſo now at its Declenſion, That degenerated into others, as *Inflammations*, *Head-achs*, *Quinſeys*, *Dyſenteries*, *Small-Pox*, *Meaſles*, *Fevers*, and *Hectics*; wherein That alſo yet predominated, as hereafter will be further ſhewn.

ABOUT

ABOUT the Cloſe of the Year, that is, on the Beginning of *November*, People grew more healthful, and ſuch a different Face was put upon the Publick, that although the Funerals were yet frequent, yet many who had made moſt Haſt in retiring, made the moſt to return, and came into the City without Fear; inſomuch that in *December* they crowded back as thick as they fled: The Houſes which before were full of the Dead, were now again inhabited by the Living; and the Shops which had been moſt Part of the Year ſhut up, were again opened, and the People again chearfully went about their wonted Affairs of Trade and Employ; and even what is almoſt beyond Belief, thoſe Citizens, who before were afraid even of their Friends and Relations, would without Fear venture into the Houſes and Rooms where infected Perſons had but a little before breathed their Laſt: Nay, ſuch Comforts did inſpire the languiſhing People, and ſuch Confidence, that many went into the Beds where Perſons had died before they were even cold, or cleanſed from the Stench of the Diſeaſed; they had the Courage now to marry again, and betake to the Means of repairing the paſt Mor-

Mortality; and even Women before deemed barren, were ſaid to prove proliffick; ſo that although the Contagion had carried off, as ſome computed, about one hundred thouſand, after a few Months their Loſs was hardly diſcernable; and thus ended this fatal Year.

BUT the next Spring indeed appeared ſome Remains of the Contagion, which was eaſily conquered by the Phyſicians, and which, like the Termination of a common *Intermittent*, ended in a healthful Recovery: Whereupon the whole Malignity ceaſing, the City returned to a perfect Health; not unlike what happened alſo after the laſt Conflagration, when a new City ſuddenly aroſe out of the Aſhes of the old, much better able to withſtand the like Flames another Time.

SECTION

SECTION II.

Of the Cauſe of a Peſtilence, and a Contagion.

AS it is our Purpoſe here to enquire into the Origin of the late Plague, and find out both its manifeſt and hidden Cauſes; I cannot judge it neceſſary to go into the uſual Length of Writers, in a particular Recital of all thoſe remote Regards which they diſtinguiſh by Supernatural, Preternatural, and Natural; becauſe by ſuch Means this Treatiſe would be drawn out into almoſt infinite needleſs Diſtinctions.

THAT the Truth therefore may at once be brought into an open Light, and the Peſtilence appear in its genuine Affections, I think it proper to premiſe this one Thing, becauſe the whole depends upon it, *viz.* That the Peſtilence is the moſt notorious of all popular Diſeaſes, and depends upon ſome Cauſe equally common, and in every reſpect adequate to its extenſive Effects; which being granted, it naturally follows, that all particular Cauſes, which may accidentally intervene, (the Recital of which would be very tedious) are reſolvable into this one.

AND.

AND for what concerns that Peſtilence now under Enquiry, this we have as to its Origin, from the moſt irrefrigable Authority, that it firſt came into this Iſland by Contagion, and was imported to us from *Holland*, in Packs of Merchandize; and if any one pleaſes to trace it further, he may be ſatisfied by common Fame, it came thither from *Turkey* in Bails of Cotton, which is a ſtrange Preſerver of the Peſtilential Steams. For that Part of the World is ſeldom free from ſuch Infections, altho' it is ſometimes more ſevere than others, according to the Diſpoſition of Seaſons and Temperature of Air in thoſe Regions: But if any would yet more intimately be acquainted with its Origin, it concerns him to know all the Changes the Air in theſe Climates is ſubject to, and its various Properties of Dryneſs, Moiſture, Heat, Cold, *&c.*

BUT leaſt I ſhould be thought too prolix in the Enumeration of ſuch Circumſtances, and incur the Suſpicion of Atheiſm, (a Charge too juſt upon the Faculty) by aſcribing too much to *ſecond Cauſes*, as the Schools pleaſe to call them, it may be

be convenient for me to declare, that the τὸ θεῖον of a Peſtilence is as much a Part of my Faith, as any others; the ſacred Pages clearly and demonſtratively prove, that the Almighty, by his Authority, and at his Pleaſure, may draw the Sword, or ſhoot the Arrows of Death; and a Retroſpection into Times paſt, ſhews many convincing Proofs of this terrible Truth; and in this Contagion before us, the Footſteps of an over-ruling Power are very legible, eſpecially ſo far as concerns his divine Permiſſion: But the great God's Purpoſes are Secrets too awful for Mortals to pry into, although we know that he puniſhes as a Parent, and chides for our Good, which makes it our Duty to kiſs the Rod, and ſubmit. But enough of this, leaſt I ſhould be thought to invade another's Province: It is ſufficient to the Purpoſe of a Phyſician, to aſſign natural and obvious Cauſes; and where ſuch are diſcoverable, it is unworthy of him and the divine Art he profeſſes, as well as an Affront to good Senſe, to have Recourſe to any other.

BUT this being premiſed only to prevent Cenſure, our Way now lies open to

a Diſcovery of the Nature of this Peſtilence. Wherein, for Method Sake, I ſhall begin with a Deſcription of a Peſtilence in general; and which if it doth not exactly agree with the Accounts given by the Ancients, yet I doubt not but it will be found, by every impartial Conſiderer, to be as full and ſatisfactory.

THE Peſtilence is a Diſeaſe ariſing from an *Aura* that is poiſonous, very ſubtle, deadly, and contagious, affecting many Perſons at the ſame Time together in one Country, chiefly ariſing from a Corruption of the nitrous Spirit in the Air, attended with a Fever, and other very grievous Symptoms.

EVERY one of theſe Particulars are as clear as the Light at Noon-day; and theſe Explications are ſo obvious to be met with in the Writings of the Learned, that it would be loſt Labour to inſiſt upon any ſuch Thing here; we ſhall therefore proceed to explain only what more immediately ſtands in need of it.

AND firſt of all it is ſaid from an *Aura*, as diſtinguiſhing it from ſuch Poiſon

as

as is more groſs and earthy; for this is not to be confined in any Incloſure, but is ſo rare, ſubtle, volatile, and fine, that it inſinuates into, and reſides in the very Interſtices, or Pores of the aerial Particles; whereas that which is of a more fixed Nature, is confined within certain Limits, and is incapable of ſuch Progreſs.

IT is ſaid to be poiſonous alſo, from its Similitude to the Nature of a Poiſon, both being equally deſtructive to Life, and killing Perſons much after the ſame Manner, ſo that they ſeem to differ in Degree only; for the deadly Quality of a Peſtilence vaſtly exceeds either the arſenical Minerals, the moſt poiſonous Animals or Inſects, or the killing Vegetables; nay, the Peſtilence ſeems to be a Compoſition of all the other Poiſons together, as well as in its fatal Efficacies to excel them; for in this there is manifeſtly joined both the Height of Putrefaction and Malignity. And as in a great many the Virulence of this Taint hath been diſcoverable, ſo in one Youth for Inſtance it was ſo remarkable, that even in the Point of Death the whole Body changed green, which ſo alarmed the Mother, that ſhe immediately haſted

to my Houſe, to know whether by Miſtake there had not been ſome Poiſon given him; whereas he had taken nothing but mild and common *Alexipharmicks*; this green Hue therefore was a Demonſtration of the poiſonous Vitriolick Nature of the peſtilential Taint.

IT is ſaid to be very ſubtle both on Account of its Original and Production, before it hath eſcaped from its native Seat; and that wonderful Comminution which it cannot but undergo in its Progreſs through ſo many Climates, whereby it is, as it were, ſublimed to the higheſt Degree of Volatility, beyond that of any Meteor, which is the Production of groſs, corporeal, and heterogeneous Particles; nay, it is more active than Lightning, and in the Twinkling of an Eye carries to a Diſtance Putrefaction, Mortification, and Death.

AS for the Manner whereby it kills, its approaches are generally ſo ſecret, that Perſons ſeized with it ſeem to be fallen into an Ambuſcade, or a Snare, of which there was no Manner of Suſpicion; they are therefore not to be credited or regarded, who affirm the Progreſs of a Peſtilence to be ſenſible,

even

even to the Smell and Sight, and report (though who will may believe them for me) the Infection to reſemble the Fragrancy of Flowers in *May*, or any other ſweet Savour; or, on the contrary, to ſtrike the Noſe like the Stench of a rotten Carcaſe; nay, ſome pretend to be ſo ſharp-ſighted, as to diſcern Clouds in the Atmoſphere big with peſtilential Poiſons, and other ſuch Conceits of a diſtempered Imagination, that are chiefly the Products of Fear, which conſtrues every Thing for the worſt: Although indeed I muſt confeſs, that ſometimes this very ſubtile *Aura* may be ſo mixed or loaded with groſs and ſulphureous Particles, as to be perceptible to the Senſes.

FURTHER, as to the fatal Influences of a Plague, if the before recited Account is not ſufficient to ſhew it, it would not be a Task of any Difficulty to produce many Inſtances of its Tyranny and Deſtruction: Hence the Plague by the *Hebrews* was called דבר or Perdition; as if it was ordained on Purpoſe to deſtroy Mankind: It is alſo called *Lues*, from λύω, to diſſolve; a moſt certain Way of Deſtruction, and whoſe fatal Property in the Plague is moſt remarkable, whereby it does not ſo much

prepare the Way, as immediately of its ſelf deſtroy, and of whoſe certain Ruin, through whole Regions together, we have too many Teſtimonies upon Record, in the Writings both of Ancients and Moderns.

AGAIN, the Peſtilence is ſaid to be contagious; becauſe ſome are come to that Height of Boldneſs, (being blind with too much Light) to propagate ſtrange Conjectures to the contrary, as if the late Plague was begun and continued by a foreign Influence; but to remove this Controverſie, it may be convenient to explain the Nature of a Contagion, and its ſuppoſed Conditions of Exertion; yet before I enter upon this, it will be neceſſary to diſpatch the other Members of this Definition.

IT is further added, that the Plague affects many Regions together at the ſame Time, in Order to diſtinguiſh it both from *Endemick* Diſeaſes, that is, ſuch as are appropriate to one Place only; and alſo from *Sporadick* Diſeaſes, which although they rage amongſt the Populace in this or that Country or Climate indifferently, according to the Influence of their procatarctick Cauſes, they are yet to be deemed particular, as well

well as they are pernicious: But enough of theſe Matters.

AT length then it becomes neceſſary to change the Conſideration, and enquire how it comes that the Plague hath its chief Origin from an Alteration or Corruption of the nitrous Spirits in the Air: This is the great Difficulty! This is our Task! It is therefore to be hoped that the Novelty of the Opinion will not occaſion any one to receive it at firſt Sight amiſs, until by due Examination he hath brought it to Trial; but in Order to erect this upon a ſure Foundation, it is proper to premiſe ſome Conſiderations.

AND firſt of all, the central nitrous Spirit in the Earth does every where tranſpire and exhale towards the Surface, to recruit the Conſumptions of Nature, and for other Purpoſes hereafter to be mentioned. From this ſaline Origin, ſtraining through the Bowels of the Earth, every one underſtands Vegetation to be carried on, and that the Light and vital Warmth of the Sun is impregnated by it through the whole Region of Air; and the mutual Intercourſes or Operations upon one ano-

ther between the Sun's Rays, and theſe ſaline Exhalations, by a Kind of Magnetiſm between them, is too obvious in a Multitude of Inſtances to want any Comment.

I know in nothing indeed where there is a greater Intercourſe and Sympathy: and a conſiderable Illuſtration of it may be made by the following Experiment. If any one in the Spring-time, when the Sun is approaching nearer to us, digs up a Piece of Earth, and after Infuſion and Filtration, evaporates the Liquor, he will find at the Bottom of the Veſſel a Sixth Part of Salt more than at any other Time of the Year, from the ſame Quantity of Earth managed after the ſame Manner; the nitrous Salt for many Reaſons not ariſing in ſo great a Quantity for the Exigencies of Nature, at any other Times; whence I conceive it manifeſtly to prove, that there is ſuch an Efflux of this Salt as before ſuggeſted, and a Kind of Sublimation of it into the Air, and that this ſaline Spirit hath a Sort of Sympathy with the ſuperior Heat. But that we may not uſe more Arguments than are neceſſary to prove the Energy of this Principle, every one who is doubtful herein may obſerve, that

that not only Plants are produced and nouriſhed by its ſubtle and luxuriant Inſinuation into their Fibres, but that alſo from the ſame aerial Spirit the Life of Animals, and even the humane Species, is preſerved. And I cannot ſee any Difficulty in the Opinion, that the beſt Temperature of the Blood and animal Juices, the Renewal of waſted Spirits, the Reſtauration of Strength, and the good and healthful Conſtitution of the *Viſcera*, Members, and whole Body, is maintained by the Aſſiſtance of this nitro-aerial Spirit. Nor does any thing appear more congruous to Reaſon, than that from the ſame Cauſe does the Racy Spirit of the Blood ariſe; and it is not derivable from any other; nor is it my ſingle Opinion, that from the ſame Principle it derives its Colour; but as there are no Arguments even objected to this Doctrine, it is needleſs to imploy more Time in its Vindication.

BUT further, it may happen that this nitro-aerial Spirit may various Ways be changed in its Properties; that is, either with Regard to its proliffick Influences, (if it may be ſo expreſſed) or, which much

oftner happens, in its accidental and adventitious Impurities.

SOMETIMES this univerſal Principle languiſhes and degenerates, and in its own productive Womb is tainted with ſomewhat pernicious to Vitality, and that natural balſamick Conſtitution of Blood that ſupports it; and as often as this is the Caſe, the whole Orders of living Beings may look upon it as War declared againſt them: But where any Alteration is made upon it by particular and fortuitous Cauſes, it is generally from too much Humidity diluting it, as in immoderate and unſeaſonable Rains, whence moiſt, crude, and unwholſome Vapours exhale; for every one knows how much Humidity is a Promoter of Putrefaction; whence come Swarms of Inſects, which is a certain Forerunner of a Peſtilence: It alſo ſometimes happens, that this vital Spirit, which ſo much delights in Dryneſs, is almoſt quite extinguiſhed by a rainy Seaſon; in which Exigency, what Miſeries may not Mankind expect, when a ſmall Change is of ſo fatal Conſequence? This is abundantly confirmed by the Experience of Marſhy Countries, where the Diſeaſes recurring every Year are very fatal,

fatal, by means of the putrid and damp Exhalations.

FURTHERMORE, this nitrous Principle may be ſometimes changed in its own Repoſitory by too intenſe a Heat from within, as well as without; for by ſo haſty a Sublimation its Spirit may be deadned; that is, being robbed of its balſamick Quality, (which is no Abſurdity to ſuppoſe) and kindled into too rapid a Motion, it may receive a kind of *Empyreuma*; and from which Aduſtion there may ariſe ſeveral Sorts of Diſtemperature; as Blaſts upon Trees, and Diſeaſes amongſt Cattle; and at laſt end in a Peſtilence amongſt Mankind.

FOR further Illuſtration hereof it may be obſerved, that the nitrous Spirit which circulates through the ſubterraneous Caverns may, inſtead of Obtaining a further Purification, take along with it corrupt and poiſonous Vapours from arſenical or other Minerals; and loaded therewith, break out into the open Air: And this we have confirmed from common Obſervation in the Weſtern Climes of *Africa*, that lye under the *Equator*, wherein the very Showers

Showers ſeem to be endued with a Stiptick or Cauſtick Power, ſo as to taint the Cloaths and Skin of the Travellers, and burn, as it were, upon them peſtilential Characters. From which Diſpoſition, it cannot be a Wonder to any, that the Plague ſhould reign after Earthquakes; becauſe a poiſonous Spirit at ſuch Times breaks out into the Air; as alſo that Nitre thus loaded with an impure Mixture, and ſometimes too that which is deadly, ſhould of it ſelf, like the Occurſion of an Acid, force out its Way wherever there is Room, and leave behind in its Paſſage many Marks of Malignity; ſo that ſubterraneous Animals, ſuch as Moles, Mice, Serpents, Conies, Foxes, *&c.* as conſcious of approaching Miſchief, leave their Burrows, and lie open in the Air; which is alſo a certain Sign of a Peſtilence at Hand: Hence alſo a ſudden Death of Fiſh; and a Departure of the Birds of the Air, to ſecure their Safety in that which is more wholeſome.

AFTER theſe Obſervations, it remains to ſhew how the nitrous Spirit frequently receives a Change like to that which may be termed Corruption, although it is vulgarly accounted incorruptible in it ſelf, and

and is ſerviceable in Preſerving other Things from Putrefaction.

FOR the Solution of this uncommon Difficulty, it is to be taken Notice, that Corruption here is not in that Senſe ſtrictly as when it is the Produce of Humidity, but ſomewhat more congruous to the peculiar Nature of a nitrous Spirit; which although it cannot, like ſome other Bodies, putrifie, yet if it can be changed from its Nature and Figure, ſo as not to be reducible into them again, it does not ſeem improperly ſaid that ſuch a Change is equivalent to Corruption, its Vitality or Eſſence being deſtroyed, and a new Texture being obtained. And this I ſhall further endeavour to illuſtrate by a twofold Argument.

FIRST, It is not at all to be doubted, but that what Art, which is the Imatator of Nature, can do, may be done by the Efficiency of a more powerful Agent; and the moſt expert Chymiſts do ſhew a certain Corruption of Salt; nor would it be any great Labour to diſcover here the Method how it is done, were it not a Crime to expoſe the Secrets of Nature on trifling

triffing Occaſions. But if my Authority is not ſufficient to ſupport an Aſſertion of this Weight, I truſt no one will reject the Conviction that ariſes from Effects, and therefore I ſhall reſtrain the Proof hereof to as ſhort a Compaſs as poſſible. As then it is eſtabliſhed by the concurrent Authority of Antiquity, that Fire, as it is an Element capable of Degeneration, and ſeemingly of Corruption, may increaſe a peſtilential Malignity by Means of its great Subtilty, its prodigious Increaſe, and ſwift Propagation; Qualities too, which a Peſtilence very much partakes of: That which they conceited of Fire, ſeems to me to be applicable in a much more philoſophical Senſe to that Spirit we are ſpeaking of, and which ſo nearly reſembles it. I am indeed a Stranger to any Thing in the Univerſe that makes ſo ſwift a Progreſs as a Peſtilence, and therefore the infectious *Miaſmata* are in the ſacred Scriptures ſtyled *Arrows that fly in the Dark*; and howſoever certain are their Strokes, and tho' by Means of their Fineneſs they penetrate into the very Marrow, they yet ſhun by their Subtilty our Conceptions.

AS

AS to the ſpreading of a Contagion from one to another, and ſo on to Thouſands, there is nothing can be poſſibly more ſwift in the Progreſs of Fire; and it exceeds even *Antimony* in the Retention of its Properties, though that loſes them not in a thouſand Infuſions: But the inſtantaneous Progreſs of this Enemy to Mankind is beſt illuſtrated by the Rapidity of Light, which is not greater. But more of this we paſs by till we come profeſſedly to ſpeak of a Contagion.

SECONDLY, The particular Nature of the peſtilential *Miaſmata*, may be known from their peculiar Influence upon the ſaline Particles in a humane Body; for nothing acts with more Efficacy and Energy upon a ſaline Body, than another partaking of the ſame Quality; and nothing is more plain than that this nitrous Spirit is of more Efficacy than the *Alkaheſt* it ſelf, as by it the fibrous Parts of the Blood are immediately corroded and diſſolved; and therefore after dangerous Hemorrhages, very little Coagulation can be obtained in the extravaſated Blood, unleſs by its being expoſed to the Cold; but as often

as

as that does happen, do not we immediately find a Fixation of the Fluids, and a certain Congelation of the Juices, which greatly retards their rapid Motions, and ſometimes brings even a total Stagnation: It's furthermore of conſiderable Importance to our preſent Argument, that Spaſms, the conſtant Attendants of a Plague, have their Origin from an acrid vellicating Salt in the nervous Fluid.

TO theſe it may likewiſe be added, that a Peſtilence has a great Similitude to a ſcorbutick Habit, having its Origin from a ſaline Conſtitution of Blood; and the great Likeneſs there is in many Circumſtances of their Generation and Propagation, inſomuch that after a Peſtilence is with others ceaſed, it will yet continue to infect ſcorbutick Conſtitutions; as hereafter will further appear: From the ſame Cauſe likewiſe does a peſtilential Contagion reign moſt in Maritime Countries, and near the Sea-Coaſts; becauſe ſuch a ſaline Diſpoſition does there moſt abound; and the Truth of this, the Maritime Parts of our own Country do by ſad Experience too much teſtifie.

LAST-

LASTLY, If Arguments taken to this Purpoſe from the Method of Cure were valid, from thence it may be gathered, that a ſaline Spirit hath a great Share in giving Riſe to a Peſtilence; for in our curative Regards for this Diſtemper, a skilful and upright Phyſician bends his whole Care at firſt to prevent its Attack, which he does by the Uſe of oleaginous Subſtances, by that Means expecting to cover over the Stomach as it were with a Plaſter, to guard it againſt ſharp and corroſive *Effluvia*; the ſame Intention is alſo purſued by Medicines, in endeavouring to defend againſt the poiſonous Taint, or throw it out when received by *Alexipharmicks* and *Diaphoreticks*: For every one who is but tolerably converſant in ſuch Practice, very well knows that the ſaline Particles are thrown off this Way much more effectually than by any other; and a further Demonſtration of this Matter is alſo, that the Sweat of infected Perſons, as in the late Sickneſs, gives extream pungent Pains by its Acrimony in its Exit; and that the more brackiſh ſuch Sweat comes out, the more ſerviceable it proves; whereas when it happened to be ſoft

ſoft and inſipid, it was a ſure Forerunner of worſe Symptoms, and even of Death.

FURTHERMORE, as to curative Intentions, all Diligence was uſed to preſerve and reſtore the internal Ferments from a Contagion; and this was chiefly done by ſaline Preparations of various Kinds, which gave greater Energy to the natural Spirits, ſo as to alter and renew them by Means of that Similitude of Texture and Conſtitution naturally between them.

AGAIN, what was excreted did greatly eſtabliſh this our Hypotheſis; what was thrown up by hard Vomiting diſcovered nothing more than a rancid Brackiſhneſs, that vellicated the Stomach into Convulſions by its acrimonious and corroſive Qualities; and the frothy and fermentative Nature of what was ejected by Stool, fully ſhowed its ſaline Mixture: But we ſhall come more fully to talk of this hereafter: To conclude therefore this Controverſie; although the Hypotheſis here laid down may at firſt Appearance ſeem new, yet it does not ſo far differ from the Sentiments of the Ancients upon the ſame Subject, as confirm

and

and explain what they have ſaid: It comes down to us for the Opinion of ſome of them, that a Putrefaction of Choler in an humane Body gives Riſe to a Peſtilence; and of others, that Fire may be ſo corrupted, as to occaſion the ſame; what therefore the former conceived of Choler, and the latter of Fire, we judge more juſtly aſcribed here to a vitiated ſaline Spirit. But leaſt we ſhould too long dwell upon this Argument, if it was needful to recite all the Cauſes enumerated by Authors of this Malady, it would be difficult to find any one which does not coincide with this our *Hypotheſis*; ſo that whoſoever pleaſes to be at this Pains, muſt either aſſent with us, or reject it; but he that does not like our Opinion, would do well to ſhew a better.

IN the above deſcribed Peſtilence, as indeed in many others, Perſons frequently died, without any preceeding Symptoms of Horror, Thirſt, or concomitant Fever: For the Confirmation of which, I ſhall give an Inſtance or two out of a great many: A Woman, who was the only one left alive of the Family, and yet to her Thinking perfectly well, perceived upon her Breaſt

the peſtilential Spots, which ſhe looking upon to be the fatal *Tokens*, in a very ſhort Space died, without feeling any other Diſorder, or any other Forerunner of Death.

A Youth alſo of a good Conſtitution, after he had found himſelf on a ſudden marked with the *Tokens* of the Contagion, believed at firſt they were not the genuine Marks, becauſe he found himſelf ſo well, and yet he was dead in leſs than four Hours after, as his Phyſician had before prognoſticated.

BUT how ſuddenly ſoever the Sickneſs killed ſome People, whether by ſuddenly ſeizing the Brain, Heart, Lungs, or any other principal Part, with a deadly Infection, or poiſoning the vital Spirits at once, ſo that no Appearance could be diſcerned, even of a lurking Fever, yet for the moſt Part, ſome Fever did ſhew it ſelf.

AND it cannot be thought ſtrange, that moſt who took the Contagion ſhould have a Fever, to thoſe who conſider the Nature of a nitrous Spirit, eſpecially when degenerated, and that from the moſt ſlight

Cauſe it will take Fire, and excite Heat; and the Fever accompanying this preſent Sickneſs was of the worſt Kind, both on Account of its State and Periods, ſometimes imitating a *Quotidian*, and at others a *Tertian*; ſometimes ſeeming to retreat, and at others attacking again with redoubled Fury: There was never a total Ceſſation, but ſometimes a Remiſſion for an Hour or two, although every Exacerbation was worſe than the former; but this I paſs by here, having Occaſion hereafter to enlarge further thereupon.

AT length therefore, to diſcharge my Promiſe in giving a ſhort Account of a Contagion, as of a Diſeaſe that is communicable that Way only, and killing moſt it ſeizes, it is to be taken Notice, that the Infection of the peſtilential Poiſon is not only tranſferrable from one Subject to another, either by mediate or immediate Contact, and exciting the ſame Symptoms; but all the Conditions likewiſe of its Exertion, are as conſpicuous as the Noon-day Sun; wherefore thoſe Arguments to prove the peſtilential Corruption not to ariſe from Contagion, are trifling, and not worth Notice, as altogether diſconſonant to Rea-

ſon and Experience; and after I have enumerated the Conditions of a contagious Exertion, I doubt not but to make this Matter clear to every one.

FOUR Things chiefly are neceſſary to a Contagion:

FIRST, That there is an Efflux of the contagious *Seminium*.

SECONDLY, That there is a convenient *Medium* for the contagious Particles to move through, and be conveyed by.

THIRDLY, A Fitneſs in the Subject to receive and cheriſh the contagious *Effluvia*. And,

FOURTHLY, A due Stay of this *Seminium*; of all which diſtinctly.

THE Quantity of Neceſſaries daily taken in for Refreſhment does evidently demonſtrate, that inſenſible Perſpiration is much larger than all other Evacuations together: But where a Peſtilence invades, a yet much greater Waſt is made that Way than in a Time of Health, by the inteſtine

inteſtine Colluctation and Struggle of oppoſite Principles in the animal Fluids; this is confirmed by the Obſervation of *Sanctorius*, who tells us, that Perſons taken with a peſtilential Contagion, immediately become much lighter, the *Effluvia* of their Bodies breaking through on all Sides with Rapidity; for ſuch is the Energy of the peſtilential Taint, that it immediately ſubtilizes more thick Subſtances, and gives them ſuch a Sharpneſs, as to cut their Way like ſo many Needles, or Wedges, and very often carry along with them thoſe natural Spirits which ſhould be a Preſervative to the whole Frame: Hence ſometimes follow Swoonings and Faintings that are fatal, and which are certain Indications of that Waſt of Spirits that hath been made by the peſtilential Poiſon.

HENCE moreover it appears, of what a diffuſed Nature this Contagion may be, of, by the great Plenty that tranſpires from an infected Perſon; and which Steam alone, as it is ſufficient to communicate the Infection, ſo it is alſo capable of vaſt Dilatation and Diffuſion; not much unlike the Snuff of a Candle, which not only emits a great deal of Smoak, but carries

a conſiderable Stench along with it into very diſtant Parts.

SECONDLY, A fit *Medium* is very conducive to the Propagation of the Plague; for according to the Diſpoſition of that, in being more or leſs open or confined, is the Infection ſooner or ſlower communicated: Nor is there any Doubt, but that the Air is this fit *Medium*, and whoſe Pores, altho' very minute, are readily filled with it; and therein the noxious *Effluvia* lodge ſecurely, unleſs expelled by any external Force.

THE Air is moreover the more convenient Recepticle and Conveyance of this peſtilential Poiſon, on account of that nitrous Spirit with which it abounds; hence it more eaſily receives the poiſonous *Aura*, and faithfully preſerves it as in a proper Conſervatory, and on this Account the pernicious Qualities, (unleſs firſt deſtroyed by ſome uncommon Power) ſooner reach any Subject to act upon, and float about in Readineſs for Deſtruction: Sometimes alſo the peſtilential *Miaſmata* may be broke and deſtroyed by the Occurſion of others, with-

without any Perception of either having been in this *Medium*.

HENCE it is ſtrongly conjectured how the peſtilential *Seminium* comes to be hid ſo ſecretly in the Poroſities of the Air, ſo as to be conveyed from one Country to another, and to travel unperceived into very diſtant Regions. Further, as this *Medium* is more ſtill, it is ſo much the more capable to receive the peſtilential Infection; whereupon Places that are cloſe, confined, and dark, as Priſons, and Houſes in Vallies, are much more liable to Contagion, than Situations upon Eminencies, where the Air is frequently agitated by Winds; for the malignant *Effluvia* cannot ſo well fix in an Air ſo tumultuouſly hurried about; and they are likewiſe rendred leſs hurtful by a continual Mixture of freſh Air with them.

THIRDLY, A ſuitable Diſpoſition of the Subject is very neceſſary for the Reception of the peſtilential Taint; and this Diſpoſition reſpects either ſome Fitneſs in the Pores of the Body, or a long Accumulation of diſtempered Humours. The more open the Pores are, and the wider,

by ſo much the more eaſily will the Infection penetrate into the Body; and the more conſtringed they are, the better Security is there againſt it, inſomuch that hardly by any other Means can it enter.

A Turgeſcency of bad Humours greatly facilitates the Plague's Admiſſion into any Perſon, whether ſuch a morbid Conſtitution ariſes from the Suppreſſion of uſual Evacuations, or from an erroneous Uſe of the *Non-naturals*; and moſt of all, a Load of bad Humours from an Exceſs or a Surfeit, leaves ſo great a Similitude to the peſtilential Poiſon, as greatly to encourage its Admiſſion. But beſides theſe Diſpoſitions of the Subject, it is much to the Purpoſe to ſuggeſt this following Obſervation; That the Plague is ſometimes ſo much hereditary, and influenced by a ſeminal Taint, that in a common Contagion it ſhall exert it ſelf in ſome much after the ſame Manner upon Children, as in their Parents; as in the *Small-Pox*, and other Affections of like Nature.

FOURTHLY, It is neceſſary that there ſhould be a continual Lodgment of the peſtilential Poiſon; for if the noxious Steams were

were blown away as ſoon as received, there would be but little Miſchief done; but thoſe which meet with any glutinous Matter, and a certain *Lentor* from the Viſcidity of the Humours, with which they lie entangled, until they are carried through the larger Veſſels with the Blood, begin to fuſe and taint all the animal Juices; and thus the peſtiferous *Miaſmata* having got Poſſeſſion, are able to ſubvert the whole Machine, and bring all into Confuſion, without requiring any long Stay to execute their pernicious Effects; for as ſoon as they once find a viſcid and tenacious Subſtance, they eagerly join with it, and are with great Difficulty to be extricated. Yet notwithſtanding it is generally thus, I have ſometimes found Inſtances of a longer Stay of the peſtilential Poiſon before its Exertion, where the Symptoms of Infection have not appeared until a fit Time of Maturity for Eruption into Action; and for the Confirmation of which, ſeveral Inſtances might be produced were it controverted; I have known many go into the Country after Intercourſes with the infected, and keep well for a Month or two, when the Enemy that has lay hid ſo long, ruſhed out

of

of its Faſtneſſes, and by its Fury ſufficiently compenſated its foregoing Delays; and this Eruption ſooner might very probably have been hindred, partly by the Viſcidity of the Humours entangling the peſtilential *Miaſmata*, and partly from an over-powerful balſamick Quality, natural to a good Blood, and to a Plenty and Vigour of animal Spirit; but as I would not be tedious upon Things ſo very obvious, this ſhall ſuffice concerning a Contagion.

BESIDES the Cauſes already recited, there may be others alſo worth Conſideration, *viz.* the eating corrupted, or rotten Fleſh; and it is not at all foreign to our Purpoſe here to take Notice, that on the Year before the late peſtilential Sickneſs, there was a great Mortality amongſt the Cattel, from a very wet Autumn, whereby their Carcaſes were ſold amongſt the ordinary People at a very mean Price; and a great deal of putrid Humours in all likelihood produced from thence: And this, in the Opinion of many, was the Source of our laſt Calamities; and many knowing Perſons aſcribe the Peſtilence to this Origin, as the morbid Diſpoſition which ſuch a Feeding muſt needs ſubject the People, could

could not but facilitate both the Infection and Progreſs of that fatal Deſtroyer.

TO this I do not deny, but that the common People, who fed upon ſuch a Diet even to Gluttony, might treaſure up Matter enough for ſo deadly an Impreſſion, and with which the Plague might naturally enough go into a Co-operation; but ſuch Proviſion, although very much corrupt, and liable thereby to excite Symptoms like to thoſe in a Peſtilence; yet they were not in Plenty enough to ſupply the whole Market; and therefore a Cauſe ſo private and particular, could not be ſuppoſed to extend to ſo univerſal an Effect.

HENCE it is further manifeſt, that a corrupt Diet can do no more in giving a peſtilential Impreſſion, than a good one can in removing it; and therefore, not to dwell too long upon this Matter, it is my Opinion that ſuch a Way of Living may raiſe the Humours to a Degree of Putrefaction, as brings Fevers very malignant, and cauſes epidemical Diſeaſes, but not a true Peſtilence.

AND

AND the Conjecture that a Sickneſs amongſt Cattle is transferrable to the humane Species, hath not yet appeared on any good Foundation; but to remove this Difficulty, no one doubts but that a Plague amongſt Cattle, from ſome common Cauſe, as a Corruption of the aerial Nitre, and which differs from a Plague amongſt Men but in Degree, may alſo be tranſmitted to the humane Species; that is, a feebler Degree of Poiſon, and a milder *Aura*, may taint the Herbage, than that which is ſufficient to deſtroy the firmer Conſtitution of Animals; beſides which, from the Diverſity in the Pores of Brutes, and their different Conſtitutions, and the Fortitude in the Spirit of a Man, I cannot be induced to believe that the Peſtilence amongſt Cattle from a private Cauſe, can ever obtain any Dominion over Mankind. Theſe Stories therefore have no Weight with me, that a certain Leech, upon opening an Horſe, that with a great many others had died of ſome common Diſtemper, in Order to know what it was, and finding certain peſtilential *Tokens* upon his Inwards, both the Maſter and the Family ſoon died of the Infection; which

yet

yet went no further than that Family, but expired with them.

DURING the late Plague likewiſe at *London*, a Citizen travelling into the Country, found his Horſe of a ſudden to tire and fall down, whereupon he opened his Mouth to find out if poſſible the Cauſe of ſo ſudden a Change; when the good Man, upon Receipt of the Horſe's Breath upon him, immediately grew ſick, and died in two Days Time.

BUT theſe and the like Inſtances certainly tend to prove no more than that there may be Conſtitutions and malignant Steams, which, by agitating the Maſs of Humours, may excite putrid and irregular Orgaſms, wherein the Juices and Animal Fluids, according to the Quantity and Prevalency of the Diſtemperature, and the Variety of the infuſed Taint, with the Diverſity of Putrefaction, goes into Corruption; but the forementioned Tranſplantation of the Plague does not happen but where there is a ſuitable Prediſpoſition of Humours to admit it, as its Cauſe is not general.

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MOREOVER, although the Intemperature of the Year, ſudden Change of Air, Suppreſſion of uſual Evacuation, Diminution of Perſpiration, Drunkenneſs, Venery, and Paſſions of the Mind, eſpecially Anger and Fear, are juſtly reckoned amongſt the remote Cauſes of a Peſtilence; yet they regard rather the Invaſion of it, than its Origin; but of this we ſhall ſay more hereafter. As to the abovementioned Paſſions, it is almoſt incredible how ſome, at the Height of the Infection, would from a very ſlight Cauſe kindle into the utmoſt Rage, and rave at one another like meer Scolds, until Death parted their Contentions.

NOR does Fear or Sorrow leſs prepare the Way for the Infection, by deadning the Fancy and Memory, by Suffocating the Spirits, Suppreſſing the natural Heat, breaking the Conſtitution, and Promoting Malignity: We have manifold Inſtances of this kind in Readineſs; but if, as ſome do, we ſhould be prolix in the Enumeration of Things that want not Proof, the Reader would be quite tired with needleſs Stories.

BUT

BUT now it may be convenient to add a few Remarks concerning the Tranſlation of a Peſtilence from an hot Country to a cold one; for according to the different Effects of Heat and Cold, the one attenuating and rarefying, the other condenſing and conſtipating, the peſtilential Venom is ſtrangely altered, inſomuch that in a Thing ſo obvious, there does not require much to be ſaid: Every Thing of this kind prodigiouſly ſpreads in hot Climates, as being more ſubtile than even the Air it ſelf; though the ſame in the Northern Countries is more reſtrained, and confined in Faſtneſſes it cannot eſcape from; and from hence the Reaſon is very obvious why there is ſo much Difference between the Diſeaſes of different Climates, which would be too tedious for us here to go into.

TO come nearer therefore to our Buſineſs; the ſame Affections that in an hot Country heat the Blood and other Juices, ſo as in a great Meaſure to put them into Fuſion, when tranſlated into the contrary Extream may give contrary Properties to the ſame Fluids, and *è contra*; and this might be demonſtrated by innumerable

Expe-

Experiments, were there any Doubt about it.

IT being then granted, that this Plague firſt was brought from *Africa*, or *Aſia*, to *Holland*, and from thence into *Britain*, every one may eaſily conjecture, how much Alteration it muſt undergo in ſuch a Travel, from a hot and dry Climate, into a moiſt and cold one, not ſo much in its own Nature, as from the Vehicle of Air which conveyed it, and thereby producing different Degrees of Infection, and Series of Symptoms: But this Variation would be moſt diſcernable in the Complication of the peſtilential *Seminium*, with the particular Diſeaſes of each Country, and thoſe which are as it were peculiar to them: This in our Caſe is very well worth Notice, for in *Holland*, where the Scurvy extreamly reigns, and therefore, for Reaſons before given, moſt liable to a peſtilential Infection, it obtained only as a more aggravated *Scurvy*, as ſhall hereafter be further remarked.

AS for that Opinion of the famous *Kircher*, about animated Worms, I muſt confeſs I never could come at any ſuch Diſ-

Diſcovery with the Help of the beſt Glaſſes, nor ever found the ſame diſcovered by any other; but perhaps in our cloudy Iſland we are not ſo ſharp-ſighted as in the ſerene Air of *Italy*; and with Submiſſion to ſo great a Name, it ſeems to me very diſconſonant to Reaſon, that ſuch a peſtilential *Seminium*, which is both of a nitrous and poiſonous Nature, ſhould produce a living Creature.

AS in putrid Fevers, ſo in a Peſtilence, Malignity is a Deſtroyer of Inſects, and frightens them away as it were alive, ſo far is it from giving Birth to them; indeed in ſome malignant Ulcers and Cancers, and in the Blood of ſome People, ſometimes *animalcula* are found; but this is rather to be looked upon as the Effect of ſome Fault in the nutritious Juice, than the Produce of any Poiſon; and therefore they are not to be accounted amongſt the Cauſes of a Peſtilence.

SECTION III.

Of the primary Seat of a Peſtilence; where, by the Way, is conſidered the Nature of the Spirits, and their Infection in an humane Body from Poiſon.

IN Order to put an End to the Controverſies about the Seat of a Peſtilence, which have from Antiquity even to this Day been warmly maintained, many Authors putting the Heart for the Principle of Life and Death, ſome the Brain, and others the Stomach, Lungs, or Liver: It will be neceſſary here to diſcover the immediate Reſidence of the peſtilential *Seminium:* Since therefore the above-mentioned *Aura*, according to *Hypotheſis*, is very ſubtile and ſpirituous, for that Reaſon there muſt neceſſarily be ſome conformable Property in the Matter which is fit to receive it; as therefore there is not in the whole humane Machine any Subject more appoſite, and capable of its Union, than the animal Spirits, we muſt fix its Reſidence there. But becauſe I am ſenſible what Objections this Opinion lies open to, with ſome Perſons, who may not conceive how an immediate

mediate Infection of the Spirits is communicable to the *Viſcera*, and all Parts of the Body, it will be neceſſary to go thro' this Matter in a very particular Manner, by enquiring;

FIRST, What are the Spirits concerning which we are here ſpeaking?

SECONDLY, What is that Diſpoſition of Spirits which makes them fit to receive the peſtilential Impreſſion? And,

THIRDLY, After what Manner the vitiated Spirits can affect the whole Body with Diſorders?

TO this Purpoſe we muſt know, that the Spirits are the moſt thin and ſubtile Particles of the Aliment and other Juices, raiſed to the utmoſt Perfection and Volatility by the innate Heat, and the nitro-aerial Spirit, to ſerve in the Operations of the Mind, and all the Purpoſes of the animal OEconomy.

THE Matter whence the Spirits are generated is the Chyle; and their Reſtauration, Confirmation, and Vigour, are from the

Recruits of Food; as is their Languor, Proſtration, and utter Extinction, from the Want of it; ſo that howſoever they were firſt generated in the original, they owe their Conſervation and Vitality to the Nouriſhment continually brought in; and although in a State of perfect Health *they* are never changed by *that*, yet they continually act upon that after various Ways, bringing it from a crude, retrementicious State, into a noble Juice, or rich ſpiritual Balſam, retaining its ideal Character: And hence it comes about, that although there is a daily Waſte of Spirits, yet there is no Want, becauſe Nature is continually, while Things are in Health, making more; inſomuch that after a due Conſtitution of Spirits is obtained, they of themſelves are the main Efficients in making more, as one Light is kindled by another, and as the Blood it ſelf is the chief Inſtrument in Sanguification, or making more Blood.

IT is a Matter indeed of much more Difficulty to determine, how Particles from a groſs Origin, ſhould be raiſed to ſo great Volatility and Fineneſs; but this is very certain, that when they are elaborated in the moſt perfect Manner, they exceed even

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the Light and Activity of the Sun-Beams; and the brighter and more active they are, the better do they perform their Offices in the OEconomy, as from their Efficiency is procured a State of Health and Vigour both in Body and Mind.

IT is of no great Moment to enquire, what Quantity of Spirit is neceſſary for the Conſervation and Support of an humane Body, ſo that we do but know they partake of the Source from whence they are generated, inſomuch that they are more or leſs perfect, according to the greater or leſſer Degree of Purity in their productive Juices.

BUT I muſt here acknowledge my ſelf diffident in that Opinion of the Spirits being prepared of a different Nature for particular Parts, for according to the Influences of the Mind, and the Contiguity, Rectitude, or Conſent of the Veſſels, they are by a voluntary Act determined the ſame into this or that Limb or Part: Which is manifeſt enough in the Prick of a Needle, or a venomous Bite, from the great Affluence of Spirits to that Part; I have therefore no Notion of a continued Emanation

of Spirits, but that on ſuch Occaſions they are called, by the Senſation upon the affected Part, from the nervous Origin where they are elaborated.

SECONDLY, It ſometimes happens that the Spirits degenerate from their native Purity; as alſo at others, that they prove abortive, in not arriving to their utmoſt Maturity, whereby they lie more open to foreign Impreſſions of Diſtemperature.

BUT when the Juices, or common Promptuary from whence the Spirits are generated, is not uniform, genuine, and perfect in kind, it is impoſſible that Spirits ſhould be made from it in any tolerable Perfection; for one may as well pretend to waſh a Brick, or draw clear Water from a foul Spring, as expect pure and natural Spirits from a corrupt and vitiated Chyle; although even when the Chyle is in right Order, there may various Errors happen in the Generation of Spirits; as from too great an Heat agitating the Blood in a preternatural Manner, or from an imperfect or unequal Separation of Particles, or from too much Cold: cauſing an Intermixture of Crudities; and again, although the Spirits

are

are duly elaborated, yet they may run into irregular Motions, and be the Occaſion of many Diſorders: But what is moſt to the Purpoſe, they may ſometimes alſo receive a Taint from external Impreſſions.

AND this Aptitude, or Propenſity of the Spirits to receive a peſtilential Taint, is manifeſt from their fiery, or rather ſaline Nature; and on Account of that Subtilty which they acquire thereby, do they more naturally attract the contagious *Aura*, than Bodies more groſs and heavy: For as theſe Spirits, as before obſerved, are nitrous, and inflammable, by their Similitude to a peſtilential *Aura*, they not only are fitted to receive, but even attract it, and provoke it into Union; as the Snuff of a Candle juſt blown out, if it is not too far off, will, by an Affinity of Qualities, be ſoon rekindled by another lighted one at ſome Diſtance; and how much ſoever the poiſonous Qualities of the peſtilential *Effluvia* may be deſtructive to the animal Spirits, yet there is nothing more certain, than that their Taint is very eaſily impreſſed upon them.

AFTER the peſtilential Poiſon is thus received by the Spirits, it is impoſſible to expreſs the fatal Conſequences, and the cruel Havock that is made in the whole OEconomy; for the ſame Inſtruments which before were aery, lucid, and like the Rays of the Sun, immediately become vapid, dark, and uſeleſs, neither able to invigorate the Conſtitution, nor defend it againſt the Contagion.

THIRDLY, Having briefly paſſed over theſe Matters, it remains that we ſhew by what Steps the humane Frame comes to be diſordered by this peſtilential Invaſion; and in Order to this, I know not a more fatal Circumſtance in Nature, than to have the very Guards and tutelary Preſervers of Life turn, as it were, Deſerters and Betrayers. For there is nothing more manifeſt, than that the whole Compage, and its ſeveral Parts, run into Decay as ſoon as the peſtilential Taint takes Place; for immediately upon the firſt Seizure, the whole Effort of Nature, as at *Rome* when *Hannibal* was at their Gates, is recollected againſt the Enemy, as ſenſible that all is at Stake, but being unequal to the Conflict,

they

they retreat, and are taken Priſoners, leaving the whole Body defenceleſs. Hence the Infection runs through all the Blood, whereby the Heart and Lungs are principal Sufferers. Hence follows ſuch a Corruption of the nutritive Fluids, that the whole nervous Syſtem is diſturbed, the burning Heat of the *Pancreas* produces the moſt extream Sickneſs; and hence follows ſuch a Depravation of the whole Machine, that all the vital Faculties ceaſe to act, and Death cloſes the fatal Scene.

BUT I do not at all ſee how ſuch a noble Part as the Heart, ſhould be firſt affected by any particular ſpecifick Quality in the Poiſon of a Plague, more than any other; as if it was ſo ſpightful, as ſome would have it, to attack the Principles of Life at once; for the Heart ſeems at firſt to be affected chiefly from the Multiplicity of Veſſels, and the great Crowd of Circulation that Way, giving Opportunity for the Venom ſooner to arrive thither; concerning which we ſhall have Occaſion to ſay more under that Head of Symptoms.

UPON

UPON the ſtrong, preſumptive Proofs therefore that the peſtilential Poiſon chiefly reſides in the Spirits, we cannot but much admire at the Weakneſs of thoſe, who expect to detect its Nature and Cauſe from what they can find on the Diſſection of morbid Bodies, and ſuch like Circumſtances: For a very noted Perſon, and one of exquiſite Skill in Anatomy, although he himſelf at laſt fell in the general Calamity, affirmed, that the Seat of the laſt Peſtilence was in the extream Angles of the *Plexus Choroides*, towards the *Cerebellum*, becauſe he had found a ſmall Veſicle there; others have obſerved the Lungs to have been marked with the *Tokens* of Infection; others report the Heart to have been tumefied, and burnt as it were to a Coal; whereas it is plain, that theſe Parts are only ſo many Fields of Battle, where the Spirits and the Infection contend it with each other; Nor will any one, who rightly conſiders theſe Things, wonder, that ſuch Marks of Devaſtation ſhould every where be left by ſo cruel an Enemy.

THEREFORE, although it ſhould be granted that the moſt obvious and open Tokens

Tokens of a Peſtilence are from a ſpiritual and an inviſible Cauſe, and whoſe Effects may perhaps ſometimes be laid open to Sight, yet I have no Intention to diſcourage anatomical Diſſections as a needleſs Trouble, for by ſuch Light, Medicine is recovered from the Reproach of Conjecture; but when Bodies are opened which have been deſtroyed by ſuch ſubtile Agents as here ſpoke of, there is no Confidence to be given from thence to the Nature of the Diſeaſe; and thoſe who have been moſt knowing in the Nature, Uſe, and Diſorders of the Spirits, very well can direct how to recover thoſe Diſorders, and avoid future Inconveniencies by immediate Application thereunto.

AND Laſtly, to conclude this Doctrine concerning the Spirits Infection, this irrefragable Argument may be produced from the Intention of Cure; for I have experienced by more than a thouſand Inſtances, that the more *Cardiack* and *Alexipharmick* Medicines are ſubtle and ſpirituous, the more certainly do they encounter the peſtilential Poiſon with Succeſs; whereas, on the contrary, thoſe Medicines which are coarſer

courſer and ſlower of Exertion, do little or no Good. But this we refer to the curative Part hereafter in another Section.

SECTION IV.

Of the Complication of a Peſtilence with other Diſtempers, and particularly with the Scurvy.

AS the Peſtilence is the moſt powerful of all other Diſtempers, ſo it alſo claims a particular Privilege of joining with all others; ſo that it does not more excel in its own Contrariety and Antipathy to Nature, than it aſſerts a Prerogative over all thoſe various Evils which the humane Frame is ſubjected to, and draws them into its Aſſiſtance in exerciſing its cruel Power over Mankind.

THIS Aſſertion might be ſupported by a Multitude of Inſtances, if it were not for taking up too much of the Reader's Time; for which Reaſon we ſhall only take Notice, that amongſt all thoſe Diſtempers which are thus inclined to join their Forces with this moſt powerful Enemy, ſome ſeem to have a more particular

lar Fitneſs for ſuch a Union, from a common Affinity in the Nature of their Infection, and the Energy of their Poiſon.

ONE of the Firſt of this Claſs is the venereal Diſeaſe, with which the peſtilential Venom does in a very familiar Manner unite it ſelf. At the firſt breaking out indeed of the laſt Sickneſs it was given out by common Fame, that thoſe who were previouſly infected with any foul Diſtemper, as the *Pox* in particular, would be ſecured thereby againſt the peſtilential Taint; but wicked and impious was the Conſequence of ſuch a Suggeſtion; for many were hereby encouraged to ſeek the moſt laſcivious and filthy Proſtitutions, on purpoſe to be ſecur'd by one previous Infection againſt another: But beſides the poiſonous Quality peculiar to this naſty Diſeaſe, beſides that Expence of Spirit in the procuring it, and beſides a loſt Force of the Conſtitution thereby, the greateſt Aggravation to this Misfortune was, that the very Taint which was to defend againſt another, had it in its Nature to be more forcibly attracted by it; ſo that the raſh Adventurer was ſoon brought to a bitter Repentance for his Experiment, by ſinking immediately under

under the peſtilential Contagion at its firſt Stroke; and it was common to find the venereal Buboes, by a very eaſy Tranſition, changed into peſtilential Carbuncles, except in a few Inſtances where Nature found out an uncommon Artifice againſt theſe united Powers, by endeavouring an Ejectment of their joint Malignities by Salivation, whereby ſometimes the Patient was brought into ſome Chance for his Life, both the Poiſons being in a great Meaſure caſt off together that Way.

BUT here it may not be improper to admoniſh the young Phyſicians not to be too forward Imitators of Nature in ſuch a Circumſtance; unleſs they will run the ſame Hazard with a certain Empirick, who crouded his Powders upon the Sick that raiſed an untimely Spitting, and brought a great many into a dangerous Condition, which by a regular Practice might have been, though with Difficulty, ſaved.

YET to ſet this whole Affair in a clear Light, there is great Reaſon to ſuſpect, that in many Caſes *Mercury* had for ſome Time remained in the Body, which, like

like a Snake in the Graſs, being raiſed by the Peſtilential Infection, flew up into a Salivation; for the febrile Heat, aſſiſted with Medicines alſo of an hot Nature, throw up the *Mercury*, which had long lain quiet like a Sublimation; which ſhould be a Caution, not only to young Phyſicians, but thoſe of more ſtanding in Practice, not to be ſo buſie with mercurial Medicines, to Children as well as grown Perſons, as they are too much apt to be; leaſt, beſides the Inconveniencies already mentioned, they cauſe malignant Ulcers, and Rotenneſs upon the Bones, as it is too commonly obſerved to be done in irregular Practice, to the irreparable Detriment of the Patients.

I am not however ignorant that ſometimes the Peſtilential Venom may tumifie the ſalival Glands without any other Aſſiſtance, and occaſion Ulcers in the Mouth as with *Mercury*; for it is a common Caſe in many malignant Fevers.

BUT it is ſo clear a Matter that the Peſtilential and venereal Poiſons may intimately join together by their Affinity with one another, to the great Detriment

of

of Mankind, as to want no further Proofs to confirm it; nor does their Opinion at all obviate ours, who place the venereal Poiſon in Humidity, and that of a Peſtilence in Dryneſs, as long as the Symptoms and Affections of both diſcover one common Principle, that is, ſomewhat ſaline; but yet if this ſhould not be granted, they are naturally enough joined together, by their own Malignity, and Deſtruction to humane Nature.

BUT the Affinity between a Peſtilence and a *Scurvy* is not a ſlight, and a ſuppoſititious Conjecture, but ſtrengthened and confirmed by a plain Union between them, whereby they attack like confederate Troops; and both confeſs the ſame Origin, *viz.* a ſaline Principle; as is moſt remarkably obvious in their eager Coalition, whether we conſider the forementioned Tranſplantation of the like Plague from *Turky* to *Holland*, where their Alliance was firſt formed; Or whether we reflect upon them both as Diſtempers equally epidemical, which when joined make ſuch cruel Havock among the human Species; as neighbouring Flames catch together from a like Affinity of Parts, and burn with united Fury.

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FOR although there is a great Difference in Salts of different Kinds, yet there is a common Property amongſt them all, that when joined together they cannot hardly by any Means poſſible be afterwards ſeparated, for which Reaſon, when theſe two Enemies of Mankind were joined, the complicated Evil was at firſt cuſtomarily diſtinguiſhed by the *outlandiſh Scurvy*, which by a confederate Power had increaſed its Malignity to ſo great a Degree. But to give ſome apparent Facts, which irrefragably prove the natural Union between theſe two Origins of Miſchief, it may be proper to recite ſome Symptoms common to them both, and firſt of all thoſe Spots which were their certain Characteriſticks.

THE Spots of thoſe in the Plague were ſometimes ſo numerous, as to cover all the Body, of which we ſhall ſay more hereafter; and if we conſider the Appearances and Conditions of the Spots in both, we ſhall find a very great Agreement; the peſtilential Spots ſometimes break out broad, at other Times more contracted, juſt in the ſame Manner as it happens in the *Scurvy*; and as to their Duration, ſometimes they are longer out, than at others, in both; now alſo, they

ſuddenly appear, and then again as ſuddenly turn in, and ſometimes remain out for two or three Days together; and their Likeneſs in all Reſpects is frequently ſo great, that amongſt the ignorant Nurſes and Empiricks, ſometimes the fatal *Tokens* of a Peſtilence have been miſtaken only for *Scurvy* Spots: As to their Colour, in a Plague, as well as in a *Scurvy*, they are ſometimes florid, reſembling freſh Flea-Bites, and at others dusky and livid; and I met with them in a certain Youth reſembling Violet Flowers painted all over the Body; and in ſome I have ſeen them almoſt quite black, which are with great Difficulty to be diſtinguiſhed from the true peſtilential *Tokens*.

THERE are other Symptoms alſo that denote the Agreement herein, ſuch as large Stools of a ſaline and fetid Nature, and which are with great Difficulty reſtrained by the moſt powerful Medicines; but if ſuch a Flux continues, it threatens irretrievable Injuries, as Corroſion, Inflammation, and ſometimes even Sphacelation of the Bowels, with intolerable Gripings, and ſometimes Loſs of Blood: Furthermore, the Agreement that there is between the Ulcers and Tumours of both, evidently demonſtrate the Affinity of both their Ori-

Origins, as will hereafter more fully appear in that Part about their Cure.

THE Peſtilence likewiſe ſhews its Affinity with the *Scurvy*, by leaving behind it a ſcorbutick Habit, even where a Perſon was not given to it in the leaſt before; and it is not indeed at all ſtrange, that after ſuch Diſorders, and Corruption of the animal Juices, and ſuch an Exhalation or Suffocation of ſubtile and ſpirituous Particles, an Habit ſhould be confirmed, that can be removed but by the moſt generous Remedies, and the moſt powerful *Antiſcorbuticks*.

IT remains now briefly to enquire, whether a Peſtilence coming upon another Diſeaſe, in any Inſtances proves of Service; and this I ſhall diſpatch in two Hiſtories of Caſes, one in a Conſumption, and the other in the *King's-Evil*.

A Girl of fifteen Years of Age was ſo emaciated, that ſhe had left little beſides Skin and Bones, and taking no Nouriſhment for 14 Days together, ſhe was given over as gone; but being called to the ſame Houſe to ſee her Mother, and two others who had the Infection, and recovered, the ſame Diſtemper

ſeized, that Creature almoſt half-dead before, whom alſo I then attended; but ſhe, who juſt before lay as expiring, ſeemed animated by the feveriſh Heat, began to move her Limbs, and with the Help of *Alexipharmick* Medicines, although before ſpeechleſs, began to complain of painful Swellings about her; but thoſe Buboes, which I ſuppoſe would otherwiſe have broke out, for want of Matter to raiſe them, were diſſipated by Tranſpiration; ſo that ſhe recovered, and in about two Weeks alſo manifeſtly loſt her former Diſtemper, and gathered Fleſh and Strength.

ANOTHER Maid of about 16 Years of Age had been ſo *ſcrophulous* from her Childhood, as to have many indurated Glands remain after all poſſible Means had been uſed to diſſipate them. She at laſt was ſeized with the Contagion, and peſtilential Buboes roſe upon the *ſtrumous* Glands, which ſuppurated, and let out a great Quantity of Filth; and upon her Recovery from thence, her former Diſtemper was quite loſt.

SOME gouty Perſons likewiſe, and others accuſtomed to very obſtinate Complaints, were, by a lucky Conjunction with this Infection, quite reſtored: and indeed moſt who were

were rightly managed in the Plague, and perfectly recovered of it, were afterwards, in many Reſpects, better in their Health than before; ſo that this terrible Enemy, as it was commonly fatal, ſo it alſo ſometimes proved a Remedy. And thus much for the Complication of the Peſtilence with other Diſtempers. We ſhall now proceed to its Symptoms.

SECTION V.

Of the manifeſt Signs of the late Peſtilence.

IT is altogether foreign to my Deſign here, to enumerate all the Appearances that belong to a peſtilential Conſtitution, becauſe a great deal may be aſcribed to Phantaſie and Conjecture, as the Influence of Comets, and the Conjunctions of Planets, with others of like Nature: For what ſtrange Notions have been broached concerning this Contagion, which was imported to us from Abroad? Are the Tails of Comets always armed with peſtilential Arrows? Or is the Air the more impure and unhealthful? Had we any Famine before the laſt Sickneſs? Or had we portentious ſwarms of Inſects like Clouds over us? No, juſt the contrary, as we before obſerved; all Things from Nature were

promiſing and ſerene, and this Deſtroyer invaded us on a ſudden from ſtrange Countries; it is therefore of more Advantage to our Deſign here, to take all its concomitant Signs from its manifeſt Effects.

AND indeed there are not many peculiar to a peſtilential Fever, as that is chiefly a Collection, or an Epitome of all other Fevers together, which in ſuch a Confederacy are not therefore without a tedious Work to be enumerated in all their Affections; I ſhall therefore ſatisfie my ſelf with deſcribing ſuch only which are moſt obvious to common Obſervation, and are met with in moſt infected Perſons: and theſe, for Method ſake, I ſhall diſtribute into two Claſſes.

FIRST, The manifeſt Signs of Infection.

SECONDLY, The Appearances after Infection.

BUT hereunto I think it neceſſary to premiſe, that a Peſtilence puts on ſometimes one, and at others, another Appearance, and ſometimes even contrary ones, according to the Conſtitution or Age of the Patient, the Seaſon of the Year, preſent or preceding Diſtempers,

ſtempers, a faulty Way of Living, and the different Means of Communication, both with Reſpect to Virulence and Degree.

THE Symptoms of the firſt Claſs are Horror, Vomiting, Delirium, Dizzineſs, Head-ach, and Stupefaction.

OF the ſecond, a Fever, Watching, Palpitation of the Heart, Bleeding at Noſe, and a great Heat about the *Precordia*.

THE Signs more peculiar to a Peſtilence, are thoſe Puſtules which the common People call *Blains*, Buboes, Carbuncles, Spots, and thoſe Marks called *Tokens*; of all which diſtinctly.

I do not know indeed throughout the whole Compaſs of Nature (as before it hath been frequently hinted) any Thing ſo ſubtile as the peſtilential Poiſon, and what will penetrate the Body with ſo much Swiftneſs and Secrecy, inſomuch that it is not perceived ſometimes till long after its Entrance; what therefore is commonly ſaid of its ſenſible Attack, and that the Infected feel its firſt Inſult as from a ſudden Blow, is more the Effect of a deluded Imagination and Conjecture, than any ſolid

Judgment; as the Populace are apt enough to frame ſtrange Conceits out of their own Heads, and what hath long obtained amongſt them is very difficult to erace.

WHEN therefore ſuch a kind of People hath received the Notion, as was common in the late Sickneſs, concerning the foremention'd Manner of Infection, it is no great Wonder that others likewiſe in general go into the Error, and take it for granted that this unmerciful Deſtroyer makes its Seizure in this violent Way, and therefrom wait for it as for a ſudden Stroke.

ALTHOUGH I am not inſenſible, that ſome may have thus perceived its firſt Impreſſion, upon taking in ungrateful and filthy Smells; for the peſtilential *Seminium*, (as before obſerved) when it incorporates with other Bodies that are groſs, fat, and viſcid, may ſtrike the Organs of Senſation very manifeſtly at its firſt Entrance.

AFTER the peſtilential *Miaſmata* have thus ſeized a Perſon, and the Spirits are overcome, the whole Maſs of Blood, and other animal Juices, partake of the Diſorder; from whence proceed Struggles not to be born, and

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a Train of Symptoms, of which quaking or ſhuddering is the chief, all of a ſudden, without any manifeſt Cauſe.

THIS Symptome owes its Origin to the Conflict of Nature with the infuſed Malignity, whoſe Efforts of Reſiſtance excite a Senſe of Cold from the peſtilential *Seminium*; after the ſame Manner as Nitre put upon the Tongue excites the ſame Senſation; it is alſo to be ſuſpected that this Rigor may be owing to a Quality in the poiſonous *Effluvia* of extinguiſhing the native Heat: And the Spaſmodick Affections of the Nerves proceed from ſalt, ſharp, malignant, and heterogeneous Particles ruſhing into the ſenſible Fibres, and vellicating them into involuntary Motions and Twitchings.

THE greateſt Part indeed of the Infected perceived this Horror, but ſome of them more vehemently than others; but of the immediate Impreſſion upon the Spirit there is no Room to doubt, nor of a conſequent Degeneration of the whole Maſs of Blood; although I am ſenſible that the Subtilty of the peſtilential Taint took Place ſooner or later, according to the different Degrees of Strength and Texture in the Body to reſiſt it.

IT

IT is certain that the fine and exquiſite Contexture of the nervous Syſtem, and the Agreement and Conſent of one Part with another, as well as the extraordinary Perfection of the Animal Spirits, ſet as Guards over ſuch ſenſible Parts, could not but be affected with the Apprehenſions of Miſchief, and ſhake and tremble, and uſe their Efforts to throw off the Danger; and indeed I take it further to be probable, that the peſtilential Poiſon might be ſhook by ſuch Means out of the Nerves into the Muſcles, and there cauſe Tention, Trembling, Vellication, Yawning, Stretching, and all thoſe other Concomitants of putrid and malignant Fevers.

THE Duration alſo of this Shuddering was as uncertain as its Degree, for it went off ſometimes ſooner, and at others later; ſometimes in half an Hour, and at others, not till four or five Hours; which difference I conjecture owing to the Quantity and Intenſeneſs of the Malignity, as to the greater or leſſer Struggles of Nature to reſiſt it.

AS ſoon as this Horror could be ſaid to terminate, for the moſt commonly a Nauſeouſneſs and Reaching ſucceeded, from whence there

there was ſuch an exceſſive Loathing of Food, that even the Mention of it was irkſome; a certain and infallible Sign of Seizure.

BESIDES the Nauſeouſneſs and Loathing, ſome were followed by grievous Vomitings, occaſioned by the poiſonous Quality of the Peſtilence irritating and ſubverting the Stomach, for that, by Means of its nervous Coats, being endewed with an exquiſite Senſe, endeavours to throw off any Thing offenſive and corroſive with the utmoſt Efforts, and prevent the ſaline, peſtilential Venom, if poſſible, from taking Place; inſomuch, that nothing is more certain, than that the Stomach, by this fine Contrivance of Nature, is ready alſo to throw off any other Thing diſagreeable to it, as well as the Poiſon we are here ſpeaking of.

SOME endure hereby ſuch a vehement and continued Irritation, that cannot be aſſwaged by any Remedies, how often ſoever repeated, and ſometimes the Reaching continues after the Strength of the Patient is too far ſpent to throw any Thing up, whereby the Symptoms aggravate, and the peſtilential Venom takes deeper Root in the Conſtitution.

AFTER the principal Load of Humours at the Stomach are thrown up, a very frothy Bile, fermenting like Yeſt, follows, that in its Colour is greeniſh, and ſometimes ſo fetid, that a Perſon cannot endure the Room without holding his Noſe; ſuch is the prodigious Putrefaction and Malignity in ſome of theſe Caſes.

BUT where the Uſe of Medicines, otherwiſe effectual to ſtop the moſt obſtinate Vomiting, proves ineffectual, and there follows a great Thirſt and Heat, it gives ſtrong Suſpicion of Carbuncles in the Stomach, and immediate Death, ſo that the infected as it were vomit up their Souls, which (if we believe *Helmont*) have their Reſidence there; but this will be further ſpoke of in the Prognoſticks.

BUT before I proceed any further, the Health of my Country, and the Concern of Poſterity, oblige me to take Notice of the pernicious Practice of Empiricks of all Orders, with whom it was a Cuſtom to give *Emeticks*; for certainly many were deſtroyed by this Practice, the convulſive Reachings to vomit being carried beyond a Poſſibility to bear

bear it. And truly the beſt Deliberation and Thought I was able to take in ſuch Exigencies, where I happened to be called, was but of little Effect; and after Adminiſtration of the beſt Medicines that the Rules of Phyſick could invent, Things generally grew worſe; which made it appear as impoſſible to rectifie a raſh and fatal Error in the Conduct of a violent Diſeaſe, as in the Management of a military Engagement; but of this we ſhall have Occaſion to ſay more hereafter.

YET to ſatisfie any inquiſitive Perſon how this primary Affection of the Stomach does ariſe, and through what Paſſages the peſtilential Poiſon makes its Entrance, it is to be obſerved, that nothing is more plain than that the peſtilential *Miaſmata* not only enter at the larger Paſſages, but alſo through the Pores of the Skin, even to the whole nervous Syſtem, from whence they are communicated to all other Parts; for this is peculiar to the Nerves, that they not only convey the firſt Impreſſion to the Stomach by its general Conſent with all Parts, but alſo when that is after any Manner whatſoever affected, they communicate it to the whole Frame, as in the taking a Vomit.

SOME-

SOMETIMES the peſtilential *Aura* is mixed with the Food, and ſwallowed therewith, which after ſome Delay in the Stomach being digeſted and diſſolved, lets out the impriſoned Venom to vellicate the Fibres into Reachings and convulſive Motions: And to put this altogether out of Diſpute, I have often obſerved Perſons immediately to fall ſick from a State of perfect Health after eating, and to throw up their Food, in other Reſpects good and wholſome, as ſomewhat corrupted and poiſonous.

VOMITING alſo may be promoted by Scents, as well as thoſe which are fetid, as ſuch as are contrary, by ſome particular Antipathy to the Nature and Conſtitution of the Patient; and this I conjecture happens from the Harmony and Conſent of the Organs of Smelling with the Coats of the Stomach, inſomuch that the Stomach immediately perceives any Thing that ungratefully ſtrikes the Noſe, and riſes up againſt it. In the mean Time I would however tranſiently make this one Remark, that as in many Caſes the Adminiſtration of Emeticks was pernicious, whether or no Evacuation of the firſt Putrefaction at Stomach, might not be much better encouraged upwards by Scents; as, on the con-

contrary, the Reachings at Stomach are ſometimes allayed by like Means, as by the Smell of Vinegar, *&c.* I do confeſs, that this is a Practice I cannot atteſt the Succeſs of by Experience, yet it is not unworthy a rational Phyſician to attempt it.

ALL the Sick likewiſe quickly after Seizure grew delirious, running wildly about the Streets, if they were not confined by Force; when ſome tired with Rambling, on Increaſe of their Diſtemper, would fall down, ignorant of their Condition, or where they were; and laſtly, to repeat what hath been already remarked, that ſad Calamity ſeemed to have complicated in its Production every Thing of a poiſonous and a deſtroying Nature.

MANY were ſeized with a *Vertigo*, which, without any Motion of external Objects, made them believe their Heads to turn round: Without doubt the Brain grievouſly ſuffered from the peſtilential Taint, not only becauſe the Spirits uſed to be clouded, but that all Things were done as if in Sleep, which might ariſe from the inflammatory, cauſtick, and narcotick Nature of the Venom, and the Texture and Conſent of the Veſſels

with

with the various Diſpoſitions of the Fluids. This vertiginous Diſpoſition alſo, in my Opinion, might ſometimes ariſe from the inordinate and irregular Motions of the Spirits.

A great many likewiſe much complained of a Head-ach, ſo vehement, as if the Parts would have flown aſunder; a Complaint the moſt intolerable of all, becauſe it continued without any Remiſſion, or Intervals; the Enemy never retreating of it ſelf, and only to be vanquiſhed by the Efforts of the Conſtitution, and appoſite Medicines. Indeed nothing was more plain, than that the *Meninges* were ſtimulated by the ſaline *Spicula* of the Contagion; and from the Inflammation of the Brain, and its Sphacelation in thoſe who died, there is a ſtrong Suſpicion that this cruel, ſhooting Pain, continued to the laſt.

IN this Claſs of Symptoms, Stupefaction is alſo to be ranked; becauſe from the Moment of Seizure many were taken with a *Coma*, and ſlept as if they were dozed with an *Opiate*; many in the middle of their Employ, with their Friends in Converſation, or other Engagements, (as was before taken notice of) would ſuddenly, with-

without any Reluctance, fall into profound, and often deadly Sleeps.

BUT by what Means this Venom does exert its narcotick Qualities, is not with me ſo ready to be accounted for; that is to ſay, whether it be from its original *Seminium*? Or from its Affinity and Complication with the Scurvy? Or from its predominant Malignity, and Antipathy? Or from an Obſtruction of Circulation, or Coagulation, or Extravaſation of Blood? Or laſtly, from ſome particular Impreſſion made upon the Origin of the Nerves? For this is a Difficulty reſerved for another *Hippocrates*. In the mean while it is by all confeſſed, that by ſuch Stupefaction or Sleeping, the peſtilential Venom becomes not only more deeply rooted, but alſo more cruelly affects the nervous Syſtem, and greatly weakens it.

THE firſt and moſt conſiderable Symptom of the ſecond Claſs, was a Fever, which (as was before ſaid) was a conſtant Attendant upon the laſt Peſtilence; although indeed the Infection ſeemed to kill ſome before the Blood and other Juices could riſe into Fermentation; wherefore it may be taken for granted, that moſt Perſons were accom-

panied with a Fever. But this Fever indeed was in ſome very low and concealed, though in others it appeared openly; and he muſt be but little acquainted in phyſical Practice, who hath not frequently obſerved, that in malignant Fevers their Beginnings are hardly diſcernable, being accompanied with no Heat, no Inequality of Pulſe, and no Thirſt, although ſecretly indicated by ſome other lurking Symptoms; and the Manner in which ſuch Patients expire, demonſtrates, that they could not be altogether free of a Fever. There are many Circumſtances indeed which make it thus difficult in the Acceſſion to diſcern its Approaches, as a Want of Turgeſcency of Blood in the Veins and Arteries, through Defect of Room for ſuch Commotion and Depuration, or becauſe the Blood is ſo thin, crude, and degenerate, that it cannot but with Difficulty ferment and grow hot; or becauſe the peſtilential *Miaſmata* ſeem at their firſt Inſinuation ſo friendly to the Conſtitution, as to ſtir up no remarkable Alteration in the Blood; or from its cold and ſtyptick Quality, retarding or ſuppreſſing ſuch an Agitation.

WHEREFORE no Body ſhould conjecture, that there is no Fever at all where

where its manifeſt Symptoms do not immediately appear; but it moſt commonly happened otherwiſe during the late Contagion, for that diſcovered Signs apparent enough of its Preſence, ſuch as extream Inquietude, a moſt intenſe Heat outwardly, attended with unquenchable Thirſt within, Dryneſs, Blackneſs of the Tongue, intolerable Heat of the *Præcordia*, and all other uſual Concomitants of a Fever's Acceſſion.

AS to the Fever's Exacerbations and Remiſſions, it appeared by conſtant Experience, that ſometimes they were erratick and changeable, and at others continued, without any Intervals; and it was alſo cuſtomary to meet with ſome that wholly remitted for 8, 10, or 12 Hours. The Alternations likewiſe of Heat and Cold were very various, and with ſome would change ſeveral Times in one Hour, and with others, the Periods would be at much greater Diſtances; ſo alſo the recurring Acceſſions were ſometimes milder, and at others more ſevere. Thoſe who with great Difficulty went through the firſt Paroxyſm, could bear the ſecond with Eaſe, as being much milder; whereas again the third or fourth Acceſſion would be with intolerable Vehemence and Fury: And at

other Times the firſt Fit would be gentle, and the ſubſequent very ſevere and intenſe; and truly ſuch was the Uncertainty and Diſguiſe of this inſidious Enemy, that nothing could be prognoſticated of its Attacks or Cruelty.

BUT to come at ſome tolerable Notion of the Reaſon for ſuch Uncertainty; it is to be enquired,

FIRST, What Cauſe can be aſſigned for ſuch and uncertain Return of the Paroxyſms? And,

SECONDLY, What Reaſon can be given for the unequal Exacerbations when the Fits do recur?

CAN any one doubt what Tumults and Diſorders may be excited in the Blood, and other animal Juices, by that ſaline *Seminium* of a Peſtilence, which we have already deſcribed? The uncertainty then of ſuch Diſorders muſt regard either the morbifick Venom, or the Nature and Motion of the Fluids upon which it operates: The morbifick Venom, in Proportion to its Energy, and Diſ-

agreement

agreement in Figure, irritates Nature, always ready in her own Preſervation to expel the Enemy; but when her Exertions are ſlow, or imperfect, or quite languid, ſuch a Depuration is not obtained; but upon a Remiſſion of the Conflict, there is Space given for Interval; and this indeed happens, when the Nature and peculiar Figures of the noxious Particles are ſuch, as may in the firſt Struggle be broke and ſubdued, but after ſome Truce inſinuates its Virulence further into the Habit, and imprints upon every Part the true Characteriſticks of a fatal Peſtilence.

BUT the Spirits are at continual Strife, to ſubdue and throw out the Euemy, although their Efforts are not always ſucceſsful; to diſpatch this Matter therefore in one Word, as the Aſſimulation and perfect Mixture of the heterogeneous Particles procures a Motion regular and conformable to the Blood, ſo from an Inequality and diſproportionate Mixture, ariſes an irregular Circulation and Fermentation; ſo that the Reaſon for that Uncertainty in theſe Fevers, and their irregular Returns and Exacerbations, is to be ſought for in the Fluids and their circulating Veſſels, and not from any Corruption, or Degree of

Putrefaction, according to the Opinion of the Ancients.

AND as for my own Part, I can affirm, that I never could in any one ſingle Inſtance amongſt the infected, find the leaſt Impreſſions of Corruption in the Blood; and this even thoſe Empiricks, though unwillingly, confeſs, who, to the vaſt Detriment of the Sick, let them Blood upon ſuch a Notion; none of them having been ever able to diſcover any Signs of Corruption in their Blood, which, as conſcious of it ſelf, bluſhed for their fatal Miſtake, and in this Diſtemper commonly appeared more florid than at other Times.

THAT the Times of the Paroxyſms ſhould be uncertain, I take owing to the Inability of the Conſtitution to ſtruggle with the peſtilential Venom; for as every Fever is accounted regular, where all its Changes are uniform and diſtinct, by Reaſon of the managable and ductile Diſpoſition of the morbifick Matter; ſo, on the contrary, where the peſtilential *Miaſmata* uncertainly exert themſelves, and excite new Commotions, either by the Obſtinacy or Aſperity of their Parts not yielding to Comminution, there a Fever returns with inconſtant and unexpected Exacerbations:

tions: But to haſten to the ſubſequent Symptoms.

ALTHOUGH ſome (as before ſaid) were buried in Sleep, yet others ſuffered by a very different Extream, and kept continually waking, inſomuch that frequent Repetitions of the moſt efficacious Opiates could not procure the leaſt Compoſure; in which Caſe, it is my Opinion, that the Membranes of the Brain are pricked and vellicated by poiſonous *Spicula*; beſides which alſo thoſe ſoft, dewy Moiſtures upon the Brain, neceſſary for its Relaxation to ſleep, are diſſipated and exhaled by the burning Heat of the Fever; ſo that the Spirits are, as it were, ſet on Fire, and Inflammations raiſed, not to be again extinguiſhed, and frequently likewiſe Mortifications of the Brain.

BUT the moſt remarkable Symptoms of this Claſs, is the Palpitation of the Hearts; the Ancients conjectur'd that Peſtilential *Aura* to have a ſpecifick Contrariety to the Nature of that Organ; and it muſt be confeſſed that in the late Sickneſs this Complaint was very grievous; but yet I cannot ſee how this Venom ſhould more particularly be pointed againſt the Heart, than any other of the *Viſ-*

cure, unleſs in Conſideration to the greater Importance of its Office in the OEconomy.

AS ſoon as the ſubtile Poiſon of a Contagion hath inſinuated it ſelf into the Maſs of Blood, either through the Pores of the Skin, or other more open Paſſages, there is no doubt, but it imprints upon it very malignant Qualities, which, according to the neceſſary Laws of Circulation, muſt arrive at the Heart it ſelf, and affect it with Uneaſineſs, ſo that its Palpitation is nothing elſe than its Struggles to throw off what is Offenſive; and it is no wonder to me this happens, becauſe the Heart is compoſed of a fine Contexture of Fibres; for as the Peſtilential Venom hath ſomewhat in it of a ſaline Nature, and what is acrid, it very naturally ſtimulates the nervous Parts, and gives to this Organ even convulſive Motions; but of this Matter every one hath leave to judge for himſelf.

BUT how vehemently the Heart may beat on this Occaſion, appears very manifeſt from a remarkable Inſtance; I was ſent for to a Youth of about fourteen Years of Age, who had continued free

of

of the Infection, after his Mother and the reſt of the Family had been viſited by it, when all on a ſudden he was ſeized with ſuch a Palpitation at Heart, that I and ſeveral others could hear it at ſome conſiderable Diſtance, and it continued ſo to do till he died, which was ſoon after; many Medicines being given without any manner of Succeſs: But in ſo extraordinary a Caſe as this, I am apt to conjecture it rather owing to a Peſtilential Carbuncle ſeizing the Heart it ſelf, than from the Vellication and *Stimulus* only of pungent Particles paſſing through it.

BUT to go on in the Enumeration of Symptoms, Sweat deſerves mention, becauſe ſometimes it breaks out in ſuch Profuſion, as if the whole Conſtitution was diſſolved, and with a vaſt Loſs of Spirits and Strength, to the imminent Danger of the Patient, by ſuch a Diſſipation of Spirits, ſuch a Colliquation of the Balſam of Life, and an Extinction of the natural Heat. And indeed I know nothing that more powerfully attenuates the Humours, and more ſuddenly puts all the animal Juices into Fuſion, ſo as to run them through the Pores of the Skin, as the peſtilential nitro-aereal Poiſon, and

and by whoſe colliquative Quality even the fleſhy Parts are diſſolved and exhaled in vapour.

THESE Sweats likewiſe of the Infected are not only profuſe, but alſo variouſly coloured; in ſome of a Citron Hue, in others Purple; in ſome green or black, and in others like Blood; which I take to be from the various Diſpoſitions of the morbifick Venom, to give different Tinctures to the Humours: And by this Means ſome experienced Nurſes could prognoſticate the Event of the Diſtemper from the Colour of the Cloaths or Linen tinged with the Sweat.

THE Sweat of ſome would be ſo fetid and intolerable, from a kind of Empyreumatick Diſpoſition, poſſibly of the Juices, that no one could endure his Noſe within the Stench; ſometimes it was ſharp, and in a Manner cauſtick; and hence it was eaſy to judge from what Origin the Peſtilence derived its Qualities, *viz.* From a ſharp and burning *Ichor*, that would even excoriate the Parts, and ſometimes veſicate them, as if ſcalding Water had been poured upon them.

SOMETIMES cold Sweats would break out, while the Heat raged inwardly, and excited

excited unquenchable Drought. Some continued in a Profuſion of Sweat until Life it ſelf exhaled with it, while others had ſhort Intervals of Truce and Ceſſation; nay, ſome at the ſame Time ſweat on one Side, while the other was quite parched with Dryneſs.

BUT the Benefit of this Evacuation, when it was regular, either natural, or by Art, was ſo manifeſt, that all the Infected that recovered were ſenſible of it, and greatly rejoyced at its good Effects; for thoſe peſtilential Particles, which eluded the Power of all other Means, immediately upon a Sweat, as at a common Signal, made their Eſcape with the tranſpiring Steam; but whenſoever *Diaphoreticks* could not conquer the Coagulation, Viſcidity, or Obſtinacy of the peſtilential Poiſon, it always went very bad, being commonly followed by a Symptomatical Sweat, and a fatal Separation of the animal Fluids.

YET the Energy of the peſtilential Contagion not only freely diſcovered its ſelf in theſe Profuſions amongſt the Living, who (as already obſerved) were diſſolved as in an *Helodes* and a *Typhodes*, but commonly the very Carcaſes when dead, would weep out, as it were,

were, the morbid Ferment, both through the cutaneous Pores, and the common lachrymal Ducts of the Eyes.

THERE is no Occaſion to ſay much concerning Hemorrhages at Noſe; this Symptom happening much more often from the Colliquative Nature of the Poiſon, and its Eroſion of the Veſſels, than from a Plethora; as is evident more from the ichorous Colour of the Blood, than its continual Diſtillation from thoſe Veſſels.

WERE it not here that we ſtudy all poſſible Brevity, many other Symptoms might be enumerated which commonly attended this peſtilential Fever, as Heat of the *Præcordia*, Hiccup, Gripings, *&c.* all which I at preſent paſs by, and cloſe the whole with ſuch as are more peculiar to it, particularly thoſe poiſonous Veſications commonly called *Blains*.

THESE Veſications uſed commonly to riſe with an exquiſite and ſhooting Pain, containing a ſerous Humour or *Ichor*, for the moſt part of a Yellowiſh or Straw Colour, and encompaſſed with a variegated Circle, generally Reddiſh.

THESE

THESE Puſtules broke out in many Parts of the Body; and as their Station was various, ſo their Number was alſo uncertain; in ſome they were few, in others many, and a Woman I once met with covered all over with them; as to their Bigneſs, they were alſo uncertain; for ſome were as a ſmall Pea, while others increaſed to the Magnitude of a Nutmeg.

THE included Matter (near perhaps to the Nature of Urine) was altogether incapable of Suppuration, as it was ſaline and almoſt cauſtick; for very ſoon after its Eruption it would corrode its Veſicle, and burſt out, of a Colour yellowiſh, livid, or black. Moreover, the ſurrounding Circle was not always of the ſame Appearance, although at firſt coming out it was continually inflamed.

BUT this is highly obſervable, that ſometimes theſe Veſicles broke out without any other previous Indications of Infection, and, as I imagine, from the expeditious Separation of the peſtilential Venom, and the ſudden Conqueſt of the Diſtemper by a ſtrong Conſtitution: But whenſoever the Pain and Heat of the Part was ſo aggravated, that no proper

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Applications would aſſwage it, there was commonly Danger of a Mortification from ſo great a Concourſe of peſtilential Particles together; and once I remember a Veſicle to change into a Carbuncle, from the continued Acceſſion to it of freſh morbifick Poiſon.

WE come now in Courſe to ſpeak of *Buboes*, which were hard and painful Tumours, with Inflammation and Gathering upon the Glands, behind the Ears, Arm-Pits, or Groin.

THESE Tumors immediately upon Seizure are found ſo hard, that they will not at all give Way to the Touch. In ſome theſe were moveable, and in others fixed; but after ſome Time, this great Tenſion remitted; and it was common to prognoſticate the Event of the Diſtemper from their ſudden or ſlow Increaſe, and from their genuine or untoward Suppuration, as alſo from the Degrees of Virulence in their Contents.

THE Groans and unfeigned Tears of the Sick too plainly expreſſed the Aggravations of their Miſeries, and ſome ſeemed even to drown their Senſe of Pain with their Complainings; and this Intenſeneſs of Pain cannot be a Wonder to any, who duly conſider either

either the Nature of the peſtilential Venom, or the Conſtitution of the Glands. I have already ſo largely diſcourſed of the Virulence and corroſive Qualities of the peſtilential Poiſon, that no more need here be ſaid about it: and whoſoever examines the Glands will find, that from the great Diſtention of the Veſſels in this Caſe, the *Bubboes* muſt chiefly owe their Riſe to a Correſpondence between the Nerves and Lymphaticks, and the Juices they contain.

MANY Perſons of publick Note have elegantly given the Anatomy and Uſe of the Glands; it is therefore ſufficient for my Purpoſe here to ſhew, how from an Obſtruction of thoſe Juices, which flow through the larger Nerves, particularly of the Arms and Thighs, and their ſubſervient Veſſels, and their Impregnation with heterogeneous and poiſonous Particles, *Bubboes* do ariſe.

IF any one makes it a Doubt, why theſe Tumors ſhould rather come in the abovementioned Places, rather than on the *parotide* Glands, let ſuch conſider, that it is owing to the Magnitude and Capacity of the Nerves and Veſſels conſtituting the Glands of thoſe Parts; as alſo that their diffe-

different Diſpoſitions to Suppuration does proceed from the ſame Cauſe.

BUT that this Affair may more fully appear, it is to be diſcovered from what Source that Matter flows, which degenerates into *Pus*, and diſcharges from a Buboe in ſo great Plenty.

IN the Proſecution of this Enquiry, it ſhall not be without a Colour, at leaſt, of Reaſon, that I ſhall diſſent from an Opinion both of Ancients and Moderns, about the Blood alone being immediately changed into Matter; for I rather think it to proceed from other Juices, and this I ſhall endeavour to ſupport by the following Arguments.

AND firſt of all, notwithſtanding the Blood which runs in the Arteries and Veins does ſometimes, though very ſeldom, appear whitiſh; it then happens from too great a Mixture either of nutritious Juice, or of a degenerate Chyle, that will not eaſily change, and take its red Colour; but it never paſſes into Matter, becauſe the neceſſary Conditions of Circulation will not admit of ſo much Reſt as is requiſite thereunto; beſides, even the extravaſated Blood will not eaſily under-

goe

goe ſuch an Alteration: For when any Veſſels, and chiefly the Capillaries, are ſo obſtructed by Contuſions, or any other Means, that the neighbouring Parts ſwell, every Phyſician and Surgeon too, I hope, knows that diſcutient Medicines and Cataplaſms will reſtore the former Motion and Fluxility to the Blood, eaſe the Pain, and diſſipate the Tumor.

IF the Blood be too fluid in the Arteries, it is apt to occaſion *Aneuriſms*, and in the capillary Veins an *Ecchymoſis*; but nothing is more commonly obſerved in Practice, that upon a Recovery of the Blood's due Conſtitution and Circulation, the obſtructed Matter in an *Ecchymoſis* will diſſipate through the Pores of the Skin, or be abſorbed by the refluent Blood: But when the Blood happens to be too grumous and ſtagnate, a Fever immediately ariſes, unleſs it be prevented by Evacuation; and in ſuch a Diſorder, every one knows that there is moſt Danger of a *Schirrus*, or a Mortification.

AND as it hath been already obſerved, that Blood could not be drawn from the Infected by Phlebotomy, without Loſs of Strength, if not of Life, whereas the greater Quantities of *Pus* were obtained by Sup-

puration of their *Buboes*, the Patient was ſo much the better for it; it ſeems conſonant to Reaſon, that if *Pus* was generated immediately from the Blood, the Strength would as much decay upon its Loſs, as upon Phlebotomy: But I have always found it, (as many Times already obſerved) that how little ſoever the Quantity of Blood drawn away was, and although done at ſeveral Times, yet it proved of more Prejudice to the Patient, than an hundred Times as much Matter drawn from a Buboe; and that the whole remaining Maſs was not able to recruit the Loſs ſuſtained thereby.

IF they who eſpouſe a contrary Opinion, ſhould ſuggeſt that Blood may be drawn from a Tumor imperfectly ſuppurated, and from thence conclude, that its Origin was from the Arterial and Venal Fluids; it may be readily anſwered, that on opening a freſh Tumour, a bloody *Ichor* will flow out, becauſe in the Operation ſome Blood-Veſſels will be cut; whereas when the Tumor is in Maturation, the Quantity of Humour there collected obſtructs the Blood from flowing to it through its proper Veſſels; and which Humour, although in it ſelf at firſt more thin and crude, yet by the Heat of its neigh-

neighbouring Parts, and its own natural Diſpoſition, it will afterwards thicken, and change into a white Colour of a laudable Conſiſtence.

THIRDLY, To the foregoing it may be added, that ſo far as the Blood partakes of a ſaline Quality, by ſo much the leſs will it be diſpoſed to change into Matter; for the ſame Reaſon that Sea-Water cannot be boiled into a Gelly; for Salt adds to the Fluxility of Fluids, and thereby prevents Incraſſation, unleſs in thoſe Inſtances, where they of themſelves chryſtallize, by Means of an Incapacity of the *Menſtruum* to keep them in Solution, which is foreign to the Caſe before us.

LASTLY, Nothing is more known in Nature, than that Blood, by what Means ſoever extravaſated, if it cannot get back again into the Veſſels, will, after ſome Stagnation, run for the moſt Part into Grume; ſo that when a Fluctuation requires opening, little elſe than a coagulated Blood flows out: And if any one pleaſes to receive the Blood from an opened Vein into a warm Porringer, and afterwards place it in a luted Veſſel upon a Sand Heat, as near as poſſible equal to that which is natural, he will find all Labour loſt in endeavouring

to produce thereby any Appearances of *Pus* in it, either from its Colour, Smell, or any other of its requiſite Properties.

WHY then may we not conclude with ſome others of great Note, that *Pus* is generated immediately from the nutritious Juice, not in the Arteries and Veins, but in other Veſſels; in which Juice all the requiſite Properties are to be found, as a Diſpoſition to grow thick, without Smell, white, light, and of a ſmooth Conſiſtence; and I take it to be very probable, that the *Pus* is made from hence by the Aſſiſtance of the natural Heat, and the Conveyance of it by the forementioned Veſſels into the Glands whereinto they are complicated, and not by any Means from the Venal Blood, and much leſs from the Arterial.

BUT leaſt I ſhould ſeem to digreſs too far; the *Sanies* thrown out by a *Buboe* is very different, ſometimes thin and ichorous, at others thicker and more laudable, as in Abſceſſes that are not maligant; in Reſpect of its Smell, it is ſometimes ſo extreamly fetid, as not to be endured by the Noſe; but always the more plentifully it diſcharges, the better does the Patient fare afterwards:

Nature

Nature finds a Vent this open Way to diſengage herſelf from a pernicious Enemy.

THE Number of *Buboes* was uncertain, ſometimes one only appeared, at others, which was moſt commonly, two broke out at once; nay, there were met with Inſtances wherein all the Glands capable of it were tumified. Many *Buboes* at a Time infallibly demonſtrated the Aggravation, and Diſperſion of the virulent Taint; and, on the contrary, but few ſhewed the Poiſon to be not ſo prevalent, more contracted, and brought to a narrower Compaſs for Expulſion.

THE Places, and Manner of their Eruption, was very uncertain; ſometimes one would appear in the right *Axilla*, and another on the contrary Side of the Groin; theſe Tumors would likewiſe ſometimes laſt but a Day, and again inſenſibly vaniſh, that is, always when profuſe Sweat aroſe; but whenſoever they were drawn in again by any Miſmanagement or Caſualty, they would appear and vaniſh again many Times, and be very difficult afterwards to be fixed; and ſometimes when they could be brought to Suppuration, and a plentiful Diſcharge, they

would renew again, as we ſhall hereafter have further Occaſion to obſerve.

THE *Parotides* borrow their Names from the Glands affected, which grow behind the Ears; but theſe Tumors are not to be diſtinguiſhed from others but by their Situation, and therefore require not any particular Deſcription here, ſo that amongſt many Inſtances, I ſhall give but one to diſcover their Nature; In a certain Youth there aroſe a *Parotis* on each Side behind the Ears, which after Suppuration and Inciſion, let out great Quantities of *Pus*, and were afterwards by a Surgeon healed up; but the muſculous Fleſh was at this Time ſo waſted, as to diſcover a Sight as pleaſant as ſtrange, *viz.* the external jugular Veins, with the Arteries under them, the recurrent Nerves, the Tendons, the OEſophagus, and in ſhort, all the Veſſels quite bare and untouched; but upon the Patient's Recovery, all filled up as before with new Fleſh.

A Conjecture of *Diemebrooeck* comes here in our Way to examine; he will have it that *Buboes* are produced from an Ebullition of a ſaline and an acid Humour meeting together, like a Mixture of Salt of Tartar and Spirit of Vitriol: But whence can ſuch a vaſt

vaſt Coagulation ariſe? Indeed I do not deny but that a Tumult and Buſtle may be occaſioned by the Concourſe of ſuch Principles, as alſo that from ſuch a Colluctation ſome ſaline Particles may be precipitated; and it muſt further be allowed, that a Part will inflate and ſwell while ſuch Fermentation continues; but yet I cannot apprehend how *Pus* can be generated by ſuch Means; for by an Effuſion of ſuch a Mixture the *Serum* would be more changed into a *Lixivium*, than a purulent Matter; after the Conflict likewiſe is over, the Tumor would immediately ſubſide and vaniſh; but, on the contrary, Buboes daily and gradually come to their Height of Suppuration: But I ſhall not detain the Reader on this Head any longer, but proceed to a Deſcription of a *Carbuncle*.

A *Carbuncle* then is a ſmall Eruption, whoſe Contents are ſoon diſcharged, after which it appears in a cruſty Tubercle about the Bigneſs of a Millet Seed, gradually ſpreading, and encompaſſed with a very red and fiery Circle; ariſing firſt of all from an ichorous Humour, afterwards with great Pain and Heat, from a lixivious and cauſtick Poiſon.

THAT I may diſpatch as much as poſſible in a few Words, it now lies before me to deſcribe the common Method of its Eruption; in the Beginning is a ſharp pricking Pain upon the Part affected, which in a little Time grows very hot, and then lifts up the Cuticle into a Bliſter, containing a thin *Ichor*; but after the Veſicle is by rubbing or any other Accident broke, and the contained Fluid by Heat diſſipated, its cauſtick Quality leaves an *Eſchar* behind, which cruſts over, in ſome ſooner, and in others later; its Extenſion is various, ſometimes more broad, and at others more contracted; nor is its Colour more certain; in the greateſt Degree of Inflammation it is extreamly red, but for the moſt Part it is dusky, very often livid, and ſometimes, from the peculiar Virulence of the peſtilential Poiſon, even qu'te black.

BUT as there is a Quality in the peſtilential Venom not yielding even to an actual Cautery, and from which, in the Production of *Carbuncles*, *Eſchars* are generated, I take it to be of Conſequence to know how ſuch a ſharp, burning, and cauſtick Humour comes to be bred in an humane Body; and by what Contrivance of Nature it comes to be thus ſeparated and thrown out? AND

AND in an Affair of this Difficulty, I expect to be candidly ſet right by any one who thinks me miſtaken. The whole Tribe of Diſeaſes an humane Conſtitution is ſubject to, does undeniably prove that our Bodies are capable of producing many venomous Taints, even equal to any Thing in the Air or the Earth; nay, the Hiſtories of Phyſick give many Inſtances of poiſonous Inſects and Animals bred within us; and no one can be ignorant, that beſides the Diſpoſition of corrupted Humours within us to generate ſuch Creatures, that their *Semina* are often brought to us from without: And this is very manifeſt in a *private* Peſtilence, (if that Term may be allowed me) where, without any Help from external Contagion, not only a poiſonous *Semivium* may be generated, but *Carbuncles* alſo may break out; that is, from the peculiar cauſtick Quality of ſaline Particles in the Body.

WHEREFORE if this can be done in a *private* Peſtilence, what we may not expect from a Peſtilence that is the Conſequence of an Epidemick Cauſe; for the additional Aſſiſtance of a more powerful ſaline Principle from without, cannot but greatly actuate the animal Juices, and induce a compound

Malignity

Malignity abundantly ſufficient for the Production of peſtilential *Carbuncles*.

THE more aggravated therefore the ſaline Qualities of this foreign ſaline Principles ſhall be, and in Proportion to the Quantities of it inſinuated into the animal Fluids, the *Carbuncles* will break out more or fewer, ſooner or later; although as long as the peſtilential Poiſon flows in Company with other Fluids within the Veſſels, it ſeems more mild, becauſe then diluted, than when ſeparated and thrown upon the Skin by the natural Excretory Powers. And this Expulſion of it ſeems much to be aſſiſted by the common Tendency of ſerous Particles towards the Surface, and the Congreſs of nitro-aereal Particles therewith; but nothing however is more manifeſt than that when the peſtilential Poiſon hath got to the Surface, it exerciſes its Virulence upon all the Parts it touches, and leaves cruel Marks of its Triumph behind; the ſame as which likewiſe obtains not only from an epidemick Peſtilence, but upon drinking any poiſonous Draughts.

BUT it concerns us here to remove one Miſtake; For it is laid down by *Diemerbroeck*, in Oppoſition to the common Opinion, that

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a *Carbuncle* is nothing elſe but an actual Gangrene; for if any Credit may be given to our Experience, which we look upon to be as well founded as that of this great Man, I do not remember any *Carbuncles* (unleſs where there hath ſome manifeſt Error been committed in external Applications, or the Virulence of the Peſtilence hath been greater than ordinary) to have tended more to a *Sphacelus*, than any other Conſequences of the peſtilential Poiſon.

AND were there not innumerable Teſtimonies to the Truth of this, many Arguments might be alledged in its Vindication; for while there is a free Influx of vital Spirits, and other natural Fluids, into the Part affected; while the native Heat is preſerved from Suffocation, and Putrefaction is prevented, what Perſon can imagine there to be any particular Diſpoſition to Mortification in a ſingle *Carbuncle?* And the more eſpecially when the Spirits are ſo far from being intercepted by the *Carbuncle's* Eruption, that they flow more plentifully to the Part; when the native Heat is ſo far from being ſuffocated, that by its Aſſiſtance a ſalutary Separation is made; and laſtly, when the Part affected is ſo far from Putrefaction, and rendered more humid

humid than before, that theſe ſhire Particles, of an eſcharotick Quality, rather prevent Mortification, and by drying the Part make it rather more able to reſiſt ſuch a Change: And according to the beſt of my Remembrance, I never did meet with a *Carbuncle* that mortified, unleſs from the Miſmanagement or Careleſneſs of Surgeons, or when the higheſt Degree of Virulence in the peſtilential Poiſon had not occaſioned an immediate Mortification.

NO Part of an humane Body was free from the Eruption of the *Carbuncles*; And I ſhall not exceed the Truth, if I affirm that I have met with them at one time or other in all Places. But this Matter will yet appear more fully beyond Contradiction, when I ſhall have brought a few ſelect Inſtances out of a great Multitude, to put it quite out of Diſpute.

A Girl of about 12 Years of Age, felt a grievous Pain about her Breaſt, where quickly after the Appearance of a Pimple, there broke out a *Carbuncle*; the *Eſchar* at laſt came off, and the Ulcer diſcharging ſome Matter plentifully; after about twenty Days ſhe was reckoned to be very well, had not a Surgeon too raſhly dreſſed her with the *red drying Ointment*,

Ointment, in order to cicatrize it; for upon that the Peſtilence appeared again, and killed her in about three Days, undoubtedly from a Return of the Venom inwards before it was all diſcharged.

ANOTHER Caſe, almoſt beyond Belief, were it not atteſted by many Eye-Witneſſes, was of a Woman, who immediately after Delivery had a *Carbuncle* appear upon her Breaſts, when the Infant ſucked all the Time without Harm, and the Woman, through the Favour of the Seaſon, and exact Care in all Reſpects, recovered. I was alſo another time called to a Man of advanced Years, whoſe whole Thigh and Hip was over-run with a *Carbuncle*, but the Veſication was made by ſuch an ichorous *Serum*, that I ſtrongly ſuſpected a Mortification; I complained of being called ſo late, but however ordered a deep Scarification, and other Means ſuitable, whereupon there grew ſome Hopes of Separation, but for Want of inward Strength and Spirits, the Patient died; whereas another of a more vigorous Habit, was recovered in the ſame Caſe, for no other Reaſon, but that there was Strength enough to carry him through it. Moreover, I once met with a *Buboe* and *Carbuncle* together in the Groin of a Boy, not above

two

two Fingers Breadth of each other; but by due Means, both medicinal and chirurgical, the Lad got well from both his Ails together.

A certain Merchant had a *Carbuncle* upon his Arm, a little below the Elbow, but what was moſt unhappy was, that at the Beginning he was ſo Impatient of the Pain, that he applyed a Cooling Cataplaſm to it of his own ordering, for ſuddenly thereupon it changed into a Gangrene, to obviate which, Scarrification was immediately had recourſe to, in the Execution of which, the Surgeon inadvertently cut a large Vein, which cauſed ſuch a Flux of Blood, as could not be ſtopped by either actual Cautery, or any other Means; whereupon followed ſuch a Sinking of his Spirits, that the unfortunate Gentleman died in three Hours time.

LASTLY, A *Carbuncle* appeared on the Finger of a young Woman, to eradicate which, we took all imaginable Care; and all Things at firſt ſeemed to anſwer our Wiſhes; but the Uncertainty of humane Expectations; for the Patient with her old Nurſe Supping plentifully upon *French* Beans, that very Night the Diſtemper returned; and although ſhe vomited as much as her Strength would bear,

by

by the Provocation of an Emetick given her, after which were uſed the moſt Cordial Remedies, and the moſt warm Alexipharmicks, early in the Morning, a freſh *Carbuncle* came in the Place of the old one; ſhe was delirious all that Day, and in the Evening ſhe expired. After the Bearers came that Night to bury her, and talked of fetching away the old Woman next, as a Perſon dead, the poor Wretch, as awakened from Sleep, cried out, ſhe was not dead; but ſhe diſappointed not their Agreement, and died time enough to be carried away the ſame Night to the burying Place.

I might eaſily imploy a Volume in a Recital of all the particular Circumſtances of theſe *Carbuncles*; but however, before I diſmiſs this Subject, I cannot omit that the peſtilential Venom was in a very great Manner communicable from one *Carbuncle* to another; or to ſpeak perhaps more properly, the ſaline Virulence of a *Carbuncle* would generate another whereſoever it lodged.

THE Number of *Carbuncles* was undeterminate, ſometimes two, three, four, or more, would come out at once, the peſtilential Venom being diffuſed to many Parts at the ſame Time; but the reſt we ſhall leave to that

Section

Section concerning the Cure of *Carbuncles*; we ſhall here therefore ſubjoin ſomewhat concerning peſtilential Spots, called *Petechiæ*.

THE *Petechiæ* then are little Spots upon the Skin, not eaſily diſtinguiſhable from a Flea-Bite; though this Difference may be obſerved, in a Flea-Bite there may be ſeen a Puncture in the middle, where the little Creature had ſtruck in its Teeth, and round it an Inflammation, with a little extravaſated Blood: But theſe Spots are more uniform in their Colour, more fixed, and difficult to be removed; whereas upon any Preſſure with the Finger, a Flea-Bite gives Way, except in the central Puncture. Furthermore the peſtilential *Petechiæ* are to be diſtinguiſhed from the Spots of a malignant Fever, as they are deeper coloured; and likewiſe to be known (as before obſerved) from Scurvy Spots, which are much broader, and not always exactly round; although theſe are likewiſe ſometimes intermixed with the peſtilential ones, and by Means of the aforementioned Affinities between them, hardly in ſome Caſes to be diſtinguiſhed.

TO this it may be added, that the peſtilential *Petechiæ* do not always fix in the ſame

ſame Parts, and ſometimes they diſappear, after a ſhort Stay in one Place, and immediately riſe in others: And indeed there is no Part altogether exempted from them, although they chiefly come out in the Neck, Breaſt, and Back; whereas thoſe of the Scurvy come moſtly in the extream Parts. The Reaſon of this in the former Caſe may probably be from the Proximity of the larger Veſſels, and the Largeneſs of the Pores about the Trunk of the Body; and in the Scurvy, the Legs particularly are moſt ſpotted, from the Tendency and Precipitation of the ſaline Particles downwards.

THE Spots were ſometimes few, but moſt commonly very numerous; in ſome they were ſo thick, as to cover in a manner the whole Skin. I ſaw a little Girl that was all over full with them, but upon a large Sweat ariſing, they all diſappeared, and ſhe recovered; yet ſometimes the Diſtemper was ſo deluſory, that theſe Spots would ariſe, and diſappear, and come out again, for ſeveral Times; that is, when Nature gave its utmoſt Efforts to expel the Poiſon, they might be ſeen upon the Surface; but when the Spirits languiſhed,

or upon any external Cold, they would go in again.

I might here conveniently obſerve, that this Eruption was almoſt always ſymptomatical, and very rarely critical; the Colour of them was not always the ſame, ſometimes they were red, or purple, at others yellow, and ſometimes livid or black, according to the Nature and Energy of the morbifick Venom, and its Complication with other Contingencies; and hence we naturally paſs to the eſſential Characteriſticks of a Peſtilence.

THE genuine peſtilential Characters, by the common People amongſt us called *Tokens*, as the Pledges or Fore-warnings of Death, are nothing elſe than minute and diſtinct *Blaſts*, which have their Origin from within, and riſe up with a little pyramidal Protuberance, having the peſtilential Poiſon chiefly collected at their Baſes, and, according to the accuſtomed Diſperſion of ſuch Agents, gradually tainting the neighbouring Parts, and reaching to the Surface, as the Coſiguration of Veſſels and Pores are diſpoſed to favour their Spreading.

MORE-

MOREOVER theſe *Blaſts* were derivable from external Cauſes, as from the Injuries of Air, where the peſtilential *Miaſmata* were pent up and condenſed, and by that Means their Virulence increaſed to that Degree, that Life it ſelf was immediately extinguiſhed, upon coming within their Reach. Nay, ſome were ſo ſuddenly marked with theſe fatal Characters, that they did not before find themſelves in any other Reſpect out of Order; which is a Circumſtance ſo well known, that there is little need to confirm it by particular Inſtances, however, for the Reader's Satisfaction, I ſhall recollect one or two Facts of this Kind.

I was called to a Girl the firſt Day of her Seizure, who breathed without any Difficulty, her Warmth was moderate and natural, her Inwards free from glowing and Pain, and her Pulſe not unequal or irregular; but, on the contrary, all Things genuine and well, as if ſhe had ailed nothing; and indeed I was rather inclined to think ſhe counterfeited being ſick, than really to be out of Order, until examining her Breaſt, I found the certain Characters

of Death imprinted in many Places; and in that following Night ſhe died, before ſhe her ſelf, or any Perſon about her, could diſcern her otherwiſe out of Order.

Some time after I viſited a Widow of Sixty Years of Age, whom I met with at Dinner, where ſhe had eat heartily of Mutton, and filled beſides her Stomach with Broth; after I had enquired into ſeveral Particulars relating to her Health, ſhe affirmed her ſelf to have never been better in her Life, but upon feeling her Pulſe, I perceived it to intermit, and upon examining her Breaſt, I found an Abundance of *Tokens*, which proved too true a Prognoſtick, that even after ſo good a Dinner ſhe would by the Evening be in another World.

AS to the Eruption of theſe fatal Characters, I judged them to be rather the Effects of the peſtilential corroſive Salt, than of any Putrefaction of the Humours; for this Poiſon wanting room for Exhalation through the Pores of the Skin, collected in Quantities upon the Surface, and for want of Spirits to ſtrive therewith, imprinted theſe Marks thereupon.

FUR-

FURTHERMORE theſe external Parts not only grew dry from the Acrimony of this Venom, but were alſo very liable to Mortification by an Extinction of the vital Spirits; but enough of this, becauſe it would be but adding Light to the Noon-day Sun, to endeavour to confirm it by more Teſtimonies.

THESE *Tokens* did differ in Regard to their Colour and Hardneſs; of their Colour we ſhall ſpeak hereafter: Their Hardneſs I uſed to try with a Needle or Penknife, to ſee whether the Senſe and Life was periſhed or not; in which Trials I found a great deal of Difference, as ſome would be penetrated with very little Trouble, when others were even callous and horny, and difficult to be penetrated. The Origin of theſe I conjecture to be from the nervous Juice, or ſome gelatinous Subſtance evaporated into a gummy Conſiſtence, not unlike thoſe horny Excreſcencies from the Bones; their Colour and Affinity in many Reſpects with Wharts is alſo remarkable.

AND here I cannot paſs by an Inſtance worth Obſervation, of a Girl who came to my Houſe full of Sadneſs and Conſternation, already even to ſink down; upon Examination ſhe told me that ſhe had broke out from an Houſe where ſhe was ſhut up with a Nurſe, all the reſt of the Family being dead, to ſhew me the certain Forerunner of Death upon her, ſaying ſhe had the *Tokens* upon her Leg; but I ſoon found a Miſtake that might have been fatal to her, for it was only a Wharf, which neither ſhe nor the Nurſe had ever taken Notice of before; ſhe was ſoon undeceived, and by my Encouragement ſhook off all her Fear; returning Home chearful to take thoſe Medicines which were directed to carry off the Diſorders upon her, and ſweating her plentifully, removed all Suſpicion of the Contagion: But I really believe, that had not her Mind been ſoon made eaſie, by what was ſaid to her, ſhe would have died merely by the Force of her Imagination; as ſuch a Dread extreamly aggravates the leaſt Complaints.

BUT ſome of theſe *Tokens* were not only ſo like in Appearance to Wharts, that they

they deceived this young Girl, for ſometimes even the Surgeons miſtook them; and I was beholden to the Management before-mentioned of pricking through them, to be ſatisfied ſometimes my ſelf, as well as to know the Degrees of Malignity in the Venom of the true *Tokens*; where I found quickly a Senſibility, I took it for a good Sign, and thoſe which went no further than the Skin, would oftentimes ſlough off; whereas when they went deeper, they were deemed dangerous, eſpecially when the Part loſt its Feeling, and threatned Sphacelation. There were likewiſe ſome found ſo extreamly comatous, that the whole Body was deprived of Senſe; inſomuch that if any Limb, or Part clear of the *Tokens*, was tried by Puncture, or Inciſion, there would be no more felt than upon the deadly Marks themſelves; notwithſtanding which Inſenſibility of Body, ſome Faculties of the Mind would return and be perceived even till Death.

THE *Viſcera* alſo, as well as the external Parts, would ſometimes be marked with theſe Characters, nay, ſometimes it appeared, that the Inwards were affected,

when nothing of the *Tokens* were ſeen externally.

THE Magnitude of the *Tokens* were various, ſometimes as ſmall as a Pin's Head, and at others larger, and as broad as a Silver Peny; there were indeed Inſtances of many running into one, but this was but ſeldom in the late Sickneſs.

LASTLY, Some were depreſſed, and others prominent, and ſome did not appear till the infected Perſon was dead; ſo that it did not ſuffice to kill, but alſo to leave Marks of its Triumph; but ſome of the crafty Nurſes would put the dead Body immediately into wet Cloaths, whereby they ſtopped the further Fermentation of the Juices, and reſtrained ſuch Eruption, in Order to elude the Magiſtrates Notice and Power, to ſhut up the Houſes.

BUT how much ſoever theſe deep Marks were the ſure Fore-warnings of Death, yet ſometimes they would be out from the fourth Day before, and remain all that while as terrible Admonitions both to the Sick and others.

SECTION

SECTION VI.

The Prognoſtick Signs of the late Peſtilence.

AS that Peſtilence which of late made ſo great Havock amongſt Mankind, was ſo full of Shiftings and Changes in its Attacks and Progreſs, that very little Certainty could be had of its Event; it highly concerns the Credit and Honour of the Faculty, not too haſtily in ſuch Caſes to prognoſticate either Recovery or Death: In Order therefore to remove, as much as poſſible, ſuch Difficulties for the future, it is with Cheerfulneſs that I can leave with Poſterity thoſe Obſervations which I have been able to make in my daily Attendance upon the Infected, to the utmoſt Hazard of my Life, through the Courſe of this late Sickneſs.

THE prognoſtick Signs then regard either the Peſtilence it ſelf, as to its Origin, Heighth, and Declenſion, or the Recovery or Death of the Patient.

FROM

FROM certain and undoubted Signs, for ſome time foregoing the manifeſt Eruption of the Plague, may its Degrees of Severity be prognoſticated.

AS ſharp and immoderate Pains apparently denote a peſtilential Conſtitution, and likewiſe Tumors breaking out again upon Parts before affected: For it is a Caſe that I have often met with, that thoſe who have had *Buboes* and *Carbuncles* in the Sickneſs well cured, to break out again afterwards, from ſome Remains of the peſtilential Venom yet lurking in the Conſtitution, and not to be conquered.

WHENSOEVER chronick Diſeaſes are changed into acute ones, it may be concluded that the Infection is not far off; For Valetudinarians are more ſenſible of any approaching Diſorder than thoſe who are ſtrong and healthful: And from a natural Cauſe may it be accounted why infirm Conſtitutions can certainly foretel ſeveral Changes in the Air, and be forewarn'd of other external Inconveniencies; and the more virulent any infectious *Miaſmata* are, the ſooner do they affect ſuch Habits; and

and it ſeems peculiar to the Plague to be preceded by its pernicious *Effluvia*, like ſo many Officers ſeizing the Weak and Helpleſs firſt; and ſuch it tyrannizes over by converting the morbid Humours into its own Nature, in ſubtilizing thoſe which are groſs, acuating the dull, heating the cold, changing the natural Ferments, and in ſhort, by inducing oppoſite Qualities into the whole Conſtitution.

MOREOVER, in this Regard we may conſider the frequent Mortalities amongſt Cattle, which foregoe an Infection amongſt Mankind; for theſe Creatures living for the moſt Part, both Night and Day, in the open Air, not only are more influenced by it when tainted, but are alſo hurt by the infectious Venom which gathers upon the Herbage; as likewiſe they are more liable, on other Accounts, to feel its firſt Approaches, becauſe its freeſt Progreſs is in open Places.

MOREOVER, when there is a general Sadneſs and Conſternation upon the Minds of the People from no manifeſt Cauſe, ſo that the whole Multitude are pale and ſpiritleſs, who can think but that

that ſome general Calamity is at Hand?

AND certainly this will not appear a very difficult Conjecture, and remote from Reaſon, when we duly conſider the ſtrange Intercourſe and Familiarity which the Spirits maintain with Things very occult, and at a Diſtance; for whoſoever rightly weighs this Matter, will perceive the Spirits capable of very ſubtile Impreſſions, by Means of their Intercourſes with the Imagination, whereby they are capable of perceiving, tho' obſcurely, any approaching Evil, and conſequently of exciting amongſt the Populace a general Apprehenſion concerning Futurity, without any miraculous Influence.

LASTLY, All fore-bodings of any Kind denote the Malignancy of the approaching Evil, becauſe they are manifeſtly from the Influence of the peſtilential *Miaſmata*; and the further off ſuch Impreſſions are made, the greater do they prognoſticate the future Calamity will be; becauſe ſuch Irradiations at a Diſtance, and propagated through a long Tract of Air, denote the great Energy and Virulence of their Origin; when therefore the Peſtilence

ſeldom

ſeldom appears without ſuch Forewarnings, and gradually diffuſes according to the greater or leſſer Liberty for the nitro-aerial Poiſon to move in, and the firſt Perceptions of it are ſo terrible, what Miſeries and Deſolations may not be expected from it, when it is arrived in its full Force?

A Peſtilence that is fierce and deadly in its firſt Attack, ſoon ceaſes.

I call ſuch a Peſtilence fierce, that immediately deſtroys the ſtrongeſt Conſtitutions, and which being every where diffuſed, ſeizes all at once; for the ſooner the venomous *Seminium* is ſpread and waſted, the ſooner will its Fury be over.

THE Times of a Peſtilence in its Decreaſe, are in Proportion to the Times of its Increaſe.

FOR the infectious Poiſon does not act precariouſly, but in a regular and uniform Manner, as it fully appeared by the Courſe of the late Sickneſs amongſt us; (not to mention others at a greater Diſtance of Place and Time) but this will be beſt

made

made appear from the Tables of Mortality hereunto annexed.

THE Cauſe of a Peſtilence being removed, ſpent, or extinguiſhed, its Effects immediately ceaſe.

AS Fire goes out when its Fuel is wanting, or ſpent, ſo the peſtilential Virulence continually wants ſomewhat to keep it up, and no longer than it is ſupplied with that neceſſary *Pabulum* will it laſt: Although I acknowledge that ſometimes theſe fatal Sparks will lie as it were ſmothered in their own Ruins, for ſome Time, and after a certain Interval break out again into its firſt Fury, from the original Cauſe that as yet hath never been extinguiſhed. And hence perhaps ſome may be led into an Error about the Plague's being co-æval with the World, and its continual Subſiſtance in one Place or another, as external Circumſtances favour its Propagation or Hindrance; for the very Increaſe of the peſtilential *Seminium*, after every Interval of Receſs, plainly ſhews it to take freſh Root; and upon the total Extirpation of it, I cannot ſee how the ſame can appear again:

And

And this is confirmed by the almoſt continual Varieties in different Infections.

WE now come in Courſe to ſpeak of thoſe Prognoſticks, which regard the Death or Recovery of the Infected.

EVERY Hemorrhage is bad, but a Flux of the Menſes *always fatal.*

A Looſeneſs of the Bowels, eſpecially in the Beginning, is commonly a Sign of Death.

BECAUSE by this Evacuation a *Diaphoreſis* is prevented, the Strength is waſted, and the Poiſon is ſo far thrown upon the Bowels, as ſometimes to induce Mortification; the Caſe is likewiſe not much better when the *Faces* are extreamly fetid, and there is no Relief thereby; or when they are green, or black, or come away involuntarily, eſpecially when attended with a *Dyſentery.*

WHERE the Lungs are tender, weak, or diſtempered, it generally ends ill.

FOR I can hardly remember any one who had bad Lungs that eſcaped in the late

late Sickneſs; and it was a conſtant Obſervation, that Aſthmatick Perſons, not only by frequent and hard Inſpiration drew in more of the poiſonous Steams than others, but alſo that the weakned Force of that Organ, gave Opportunity to them to fix their Lodgment there.

WHEN Perſons grew no better for Sweating, but weaker, and the Diſtemper higher, it was judged fatal.

FOR after Nature had made ſuch an Effort to expel the Venom to no Purpoſe, all Hopes of Recovery could not but vaniſh. A great Expence of Spirit, and a general Decay of Strength, muſt be the Conſequence of ſuch a Waſt; and a Continuance of Sweat likewiſe brings on a dangerous Colliquitation, or is a Sign of it; and thoſe hot ſharp Sweats, which veſicate the Skin, are alſo to be ſuſpected: Moreover, it is very hazardous when cold Sweats come after ſuch hot ones. But the moſt certain Fatality of all, is from ſuch Sweats as have a cadaverous Smell; altho' there was ſometimes a very diſagreeable ſcented Sweat, with which they recovered, as with it exhaled the peſtilential Venom.

A Loſs of Appetite for a great while, proved moſt commonly but a dangerous Prognoſtick.

IT appears, by what hath been already ſaid, that a Loathing at Stomach was a certain Sign of Infection; and upon a Continuance of it, it was neceſſary that there ſhould enſue a Defect of Nouriſhment and Strength, which made a Perſon much more liable to the worſt Influences of the Diſtemper, and even to Eroſion and Sphacelation of the Stomach.

DEAFNESS joined with Drowſineſs, were Signs the Parotides *would ſoon appear.*

WHEN Buboes went in again without due Evacuation, and while bad Symptoms continued, Matters were generally doubtful, and for the moſt Part very dangerous.

I always looked upon my Labours to be defeated, whenſoever theſe Tumours diſappeared of a ſudden without any manifeſt Cauſe; for it was owing to the Retreat of the Venom inwards, where it made terrible Miſchief, and was extreamly difficult to be

got again to the Surface; yet if Sweats broke out, that the Patient could well bear, it was not uncommon for them to return, and bring again Matters into an hopeful State.

WHENSOEVER theſe Tumours are diſcoloured, eſpecially tending to Blackneſs, or do not ſuppurate, or are inſenſible, it may be pronounced the Patient will be worſe.

THE more Buboes there are, ſo that they ſuppurate, the better.

CARBUNCLES are always more dangerous than Buboes;

BOTH on Account of their ſharper Pain, and greater Difficulty to cure.

THE ſmaller the Carbuncles are in Compaſs, and their Situation remote from the Viſcera, *greater Veſſels, Tendons, and Nerves, and the fewer they are in Number, by ſo much it is the better; and, on the contrary, when they ſpread like a Gangrene, and are near the principal Parts, as the Breaſt or Belly, and alſo are numerous, or livid, the*

Fate

Fate of the Patient may be pronounced deſperate.

THE peſtilential Tokens, *eſpecially when they are deep, are the ſure and ſpeedy Meſſengers of Death.*

FOR a general Mortification commonly follows theſe particular ones: although there is ſometimes (as before obſerved) ſome Time given between one and the other, as for two or three Days.

A Complication of bad Symptoms together, precipitates the Patient into another World.

NAY, ſometimes when there are many Symptoms of Recovery, the obſtinate Continuance of one bad, is enough to determine the Patient's Fate.

FROM the inconſtant Appearance of the Urine, there can be no certain Judgment made.

THE Urine indeed of theſe Patients is generally not to be diſtinguiſhed from that of healthful Perſons, although ſometimes its Stench is not to be endured; this a

certain Phyſician found to his Coſt, who taking the Urinal too near, was infected by the Scent, fell ill, and in three Days died.

THE Pulſe, which in all other Diſeaſes is almoſt a certain Index, in this Sickneſs could not be at all truſted to.

THOSE who were comatous in the Beginning or Height of the Diſeaſe, ſeldom eſcaped.

THESE Prognoſticks I thought my ſelf obliged to take Notice of, by the Method I propoſed to my ſelf herein; but that I have omitted many, is to be excuſed by the Difficulty and Difference of Judgment in theſe Matters; for ſuch was the deluſory Appearance of this Peſtilence, that many Patients were loſt when they were thought in a ſafe Recovery; and when we thought the Conqueſt quite obtained, Death run away with the Victory; whereas others got over it, who were quite given over for loſt; much to the Diſreputation of our Art.

SECTION

SECTION VI.

Concerning the Cure of the late Peſtilence.

ALTHOUGH a peſtilential Infection is extreamly dangerous, and doubtful as to its Conſequences, very few being ſpared by it, when in its greateſt Height, yet we are by no Means to deſpair in ſo great a Difficulty, and give up the whole Race of Mankind to Deſtruction as ſoon as it comes, but be rather ſtimulated to greater Endeavours; and, like faithful Miniſters of Nature, ſtudy all Helps againſt ſuch common and grievous Calamities.

BUT before we enter upon that Part which ſeeks Aſſiſtance from Medicine, it may be neceſſary to exhort the Infected, that they have due Regard to the Almighty Power, not only in confeſſing, and ſeeking Forgiveneſs for Sin, but in imploring his Bleſſing upon thoſe Remedies and Means for Recovery, which even the moſt skilful Phyſician can preſcribe.

THE Infected alſo ought to be admoniſhed that they make their *Wills*, and

ſettle their worldly Affairs, ſo as to prevent Contention and Law-Suits, leaſt by the Severity of ſuch a Diſtemper they ſhould chance to be carried off. But this is to be done before they are affected at all in their Underſtandings by the Diſeaſe.

LASTLY, It is likewiſe to be enjoined the Sick, that they quietly, ſubmiſſively, and with a chearful Confidence, commit themſelves to the Care and Management of their Phyſicians: And hence appears the Difficulty of that Task to watch over thoſe who are in ſuch imminent Danger; and what Variety of Cares lie upon him who undertakes it, and who often falls himſelf by that Tyrant he is endeavouring to defend others from?

BUT to do Juſtice to the *Sacred* Art, in its relieving Mankind in ſuch cruel Diſeaſes, this muſt eternize the Sons of *Eſculapius*, that they ſeem to be born for the Publick Good, by their Uſefulneſs even in a Peſtilence, as well as other more common Calamities of Life; but on this Head I ſhall forbear ſaying more, knowing how unworthy I am to give due Honour to ſo much Worth.

BUT

BUT in the Proſecution hereof, as ſome heretofore have taken a great deal of Pains to no Purpoſe in finding an *univerſal ſpecifick* againſt the Peſtilence, and have impoſed many palpable Falſities upon the World under ſuch Pretences; ſo our modern *Coal-Blowers* have in like Manner cried up their pernicious Secrets, and wickedly impoſed them upon the credulous Populace. Certainly theſe publick Cheats ought themſelves to be deemed peſtilential, as their Notions and Practice is abhorrent to all ſound Reaſon: For if the Arguments on both Sides the Queſtion be fairly ſtated, any one will be convinced, that there never as yet hath been diſcovered in Nature, the full and abſolute Eſſence of a Peſtilence, but that it ſtill remains a Myſtery to Mankind; wherefore in this Diſtemper a Perſon muſt proceed, as in all others, by a ſerious Attention to the manifeſt Symptoms, and a rational Conformity of the Means of Cure thereunto; and while we hold to this only Rule of Procedure, although the Severity of the Diſtemper may conquer ſeveral, yet many alſo may be ſaved.

IT now comes to us to declare what a Phyſician has to do in this Calamity; as therefore the Diſeaſe admits of no Delays, Help muſt be immediately procured, and the Phyſician ought to fly to the Patient's Succour, leaſt, by any Omiſſion, the Caſe ſhould be got beyond Recovery, and a Perſon be loſt for Want of timely Aſſiſtance.

WHEN the Phyſician is come, he ought to addreſs the Patient with Chearfulneſs, and blame thoſe Fears and melancholy Apprehenſions which give many over too much into the Power of the Diſtemper, by cutting off all Hopes of Recovery.

LASTLY, According to the general Directory of our *College* beforementioned, the moſt generous and efficacious Medicines muſt be contrived with the utmoſt Care and Deliberation.

IN the firſt Place then, whether Phlebotomy is to be practiſed or not, is juſtly to be queſtioned; and indeed I ſhould paſs it by here as fatal, but that I know many unskilful and raſh Perſons, who not only let Blood largely at one Time, but order

order it likewiſe to be repeated until the Patient faints.

BUT if the Authority of the Ancients as well as the Experience of the Moderns hath any Weight, and indeed if our own Practice may be regarded, it is highly to be feared, from many Inſtances, that Bleeding in a genuine Peſtilence is not only to be ſuſpected, but charged as pernicious; for we have many times ſeen the Blood and Life drawn away together; which makes it aſtoniſhing to ſee the Practiſers in ſuch Miſchief dare to juſtifie the fatal Error; what is it that indicates this Evacuation? Is it intenſe Heat, or any Turgeſcency of the Veſſels? Or is it to give Vent to the peſtilential Poiſon to make its eſcape? Certainly nothing to me ſeems more abſurd; for if the other Symptoms do not remit with the Fever, the Patient will be plunged into the utmoſt Hazard; for how can the Blood and other Juices be depurated, if the febrile Heat is extinguiſhed? Not to ſay any thing of a Suppreſſion of ſalutary Breathings hereby, a Perverſion of the natural Secretions, and Sinking the Spirits.

THEY

THEY alſo are under as great an Error, who fetch their Reaſons for this Practice from the Turgeſcency of the Veſſels; for while inordiate Hurries are excited in the Blood, from diſagreeing and heterogeneous Particles ſtriving to extricate themſelves from one another, there is made thereby only a ſeeming Plenitude; what Madneſs then muſt it be, in order to remove an imaginary Fulneſs, to ſink the neceſſary Strength by a raſh Effuſion of Blood?

AND laſtly, the morbifick Poiſon is not of that kind, as to ſeek an Eſcape at the Orifice of a Vein, and run out with the flowing Blood; and which (as before proved) affecting chiefly the Spirits, and reſiding in other Veſſels, makes this Method of Cure in a Peſtilence impracticable. I will not however deny but that there may poſſibly be Circumſtances in malignant and peſtilential Fevers, which may juſtifie Phlebotomy, as when it is done for Revulſion ſake, in too great a Flux of the *Menſes*: But in a genuine Peſtilence, it is not to be meddled with. There is but one, as I can remember, who ſurvived it in the late Sickneſs; but it is needleſs to ſay any more upon

upon a Subject ſo plain, and therefore I ſhall paſs to what is of more Conſequence.

AS for what concerns the next Means of Remedy, an *Emetick* may be given in the Infancy of the Diſeaſe, where the Stomach is loaded either by over-eating, or by a Crowd of bad Humours, or when there is a Loathing, or a Bitterneſs in the Mouth; ſo that any particular Conformation of the Breaſt and Neck doth not contra-indicate; and amongſt theſe Remedies, they are preferrable which plentifully excite Vomiting without working alſo downwards.

OF this kind are the *Syr. Diaſari Fernelij, Syr. Scabioſ. compoſ. Oxymel. Scillit.* and chiefly the *Sal Vitrioli*; but the Antimonial Preparations are not ſo adviſable. The Doſe of the *Emetick* ought to be large enough to empty the Stomach ſoon; and the Poſſet-drink uſed in the Operation, in order to rince off its Coats all Filthineſs, is to be impregnated with *Carduus, Scordium, Meadow-ſweet, Butter-Burr*, &c. boiled in it. In my own Practice, I have always found good Service from large Draughts of the Poſſet-drink abovementioned, ſweetned with

ſimple

ſimple Oxymel, without any other previous *Emetick* given.

AFTER Vomiting is over, in order to enable the Stomach the better to keep any *Alexipharmick* Medicines, its Force may be greatly ſtrengthned by adding *Stomachicks* to the *Alexipharmicks*: But if a Reaching to vomit prove Symptomatical, *Emeticks* are by all Means to be avoided; leaſt the Phyſician (like old Nurſes, who are altogether ignorant of the Rules of Practice) ſhould promote that Symptom, which by fruitleſs Strains waſte the Spirits, and ſollicit the peſtilential Venom into the Stomach from diſtant Parts; which, when fixed there, ſtill irritates into more violent Reachings, that cannot be aſſwaged by any Remedies.

ALTHOUGH in other Caſes a Vomiting may be removed by *Emeticks*, yet in a Peſtilence it is dangerous to follow ſuch Practice; becauſe the Malignity, or rather Nitro-ſaline *Effluvia*, vellicate the Mouth of the Stomach, and ſo invert its nervous Coats, although empty, as to bring on Convulſions: And ſome Perſons ſeem to have their Stomachs full, as overloaded with

with Food, who crave to be freed by Vomiting, which it is by no Means ſafe to indulge them in, becauſe ſuch a Senſation of Fulneſs proceeds only from the peſtilential Poiſon vellicating the Membranes, while the Stomach is it ſelf free from Food, or bad Humours; but what further concerns this Matter, will come to be further conſidered under the Cure of Symptoms.

MOREOVER, Purges are juſtly reckoned amongſt Medicines of great Efficacy; but whether or no they are to be uſed in the Caſe before us, is a Difficulty, and full of Controverſy amongſt Phyſicians; and indeed the Varieties in peſtilential Diſeaſes, the Differences of Conſtitutions, the various Complication of Circumſtances, the Uncertainty of Seaſons, *&c.* do make it impoſſible to give any general Rules hereupon; wherefore I ſhall go no further than what my own Practice hath enabled me to judge concerning it.

A Turgeſcency or Diſtemperature of Humours do certainly call for an Evacuation this Way; that is, when the Humours are troubleſome more by their Quantity

Quantity than any ſtimulating Quality; when therefore the Conſtitution is not able to conquer ſuch a Burthen, neither by Digeſtion nor Expulſion, *Cathartick*s are certainly neceſſary to help away the Load, and eſpecially if a Perſon hath been before eating to Exceſs.

BUT if this Evacuation be delayed till the Juices have received the peſtilential Taint, the Humours are then rather to be depurated, than purged away by *Cathartick*s; and it is certainly better to truſt to the Strength of Nature, when Things are gone ſo far, to do the Work her own Way: And whether or no the Blood is too much fuſed, or (according to ſome) coagulated, purging Medicines are certainly to be avoided; for in the firſt Caſe they further agitate and fuſe the Blood, beſides the Hazard of breaking open ſuch Veſſels as may not without great Difficulty be again cloſed; the ſame Medicines are alſo hurtful in the Blood's Coagulation, becauſe they evacuate only the ſerous Parts, and leave the Remainder more viſcid and tenacious, whereby Obſtructions are rendred more perverſe and unconquerable, and the ſtagnant Matter without a Poſſibility of Dilution,

lution, and Reſtitution to its priſtine State of Fluidity, as alſo more ſtrongly incloſing the peſtilential Poiſon at the ſame Time; it is alſo greatly to be feared, that in ſo great an Agitation the morbifick Venom may be drawn to the Bowels, and Sphacelation follow thereupon.

THAT Purging may be alſo practiſed with Succeſs, the Strength of the Patient is carefully to be conſulted, for where the Spirits are low, or deficient, it may not only prove unſafe, but fatal; and where the Bowels are extreamly ſtimulated by the Cathartick, and the Humours greatly put into Fuſion by its rarifying Qualities, they will be apt to paſs off in too large a Profuſion.

WHAT can a Perſon likewiſe expect to do with a *Cathartick*, in Diſorders of the Spirits? It certainly appears to me more likely to purge away all the Humours of the Body, than re-kindle the Spirits that are oppreſſed, cloudy, and almoſt extinct, by ſuch Means; and further, as the Subtilty of the peſtilential Poiſon inclines it rather to eſcape by the ſuperficial Pores, than the larger Emunctories, this Me-

thod

thod is contrary to that natural Tendency, calling it back again from the Circumference to the Center; I cannot imagine what they propoſe, who even repeat in theſe Caſes their purging Medicines, until they bring both intolerable Pains, and Gripings into the Bowels, and Mortifications, as beforementioned.

BUT if after all Conſiderations any Perſon thinks it proper to purge, it ought to be certainly done in the Beginning of the Infection, and with ſomewhat that operates ſpeedily; and to which Purpoſe thoſe in Liquid Forms anſwer beſt, as for Example:

℞ *Aq. Angelicæ ſimpl. Tartarizatæ* ℥ ij. *Syr. de ſpinâ Cervinâ* ℥ j. *Elix. proprietatis Crollii vel Antipeſtilentialis* ℈ j. *& interdum.* ʒ ß. diſſolve *ſalis abſynthii gr.* viij. *M. S. Fiat hauſtus horâ commodâ, & typo remittendo dandus.*

A Solution alſo of *Pil. Ruffi* from ʒ ß. to ʒ j. may be made in *Marigold Water*, by thoſe who like that better. They who pleaſe likewiſe may uſe the following:

℞ *Extract. Pilularum Ruffi* ℥ ij. *reſin. Jalapii* ℈ j. *trochiſc. de rhabarb.* ʒ j. *gum. ammoniaci*

in

in aceto ſcillit. ſoluti ʒ j. *ſalis Tartari, abſynthii,* ana *gr.* viij. *cum tinct. Theriacali q. ſ. fiat maſſa, e cujus* ʒ j. *conglobentur pilulæ* vij, *vel* viij. *Doſi in conſtitutione athletica ad* ʒ ij. *prout medico viſum fuerit variandæ.*

IN a Diſeaſe that will admit of no Delay, it is beſt to evacuate but little, yet that not ſlowly; ſo that the morbid Humours may be expelled at the firſt Seizure, before they have received the peſtilential Taint, and before its Virulence hath reached to the whole Maſs of Fluids: For it is certain that no Digeſtion is to be expected in this Caſe, and therefore can there be no Room for *Alterants* or *Digeſtives*: But when the Body is very coſtive, I judge it moſt convenient and ſafe to do this with *Suppoſitories.*

BUT all Authors and practical Phyſicians agree in this, to throw out the peſtilential Malignity as ſoon as poſſible; which is expeditiouſly and ſurprizingly done by *Alexipharmicks*; and to theſe, as ſoon as the Belly is looſned, Recourſe muſt ſpeedily be had, as to a ſacred Refuge: And there is ſuch Plenty of Remedies of this kind, that Nature ſeems to have had more than

an ordinary Indulgence and Forecaſt, in providing againſt this deſtructive Enemy of Mankind; nor hath the medicinal Art been likewiſe wanting in ſupplying us with many Preparations of *Simples*, that are powerful againſt ſo grievous a Deſtroyer. But in this great Choice it behoves us to ſelect thoſe which are moſt efficacious; for this Diſtemper, which is certainly the moſt tyrannical of any that beſets a humane Body, may be ſometimes conquered in its Infancy, which when got to a Head, is not to be managed by the greateſt Efforts of humane Skill.

AMONGST the Simples of the three Kingdoms, to begin with the Vegetable, *Virginian Snake Root*, when freſh and fragrant, is the moſt efficacious; inſomuch indeed that I have often admired, that ſuch great Virtue ſhould reſide in ſuch minute Fibres, having a Taſt very pungent, and a quick aromatick Scent, and diſcovering ſomewhat wonderful and almoſt ſupernatural; ſo that it deſervedly is accounted the moſt efficacious and generous *Diaphoretick* and *Alexipharmick* for expelling the peſtilential Poiſon. Its Doſe, finely powdered, is from *gr.* iv. or vi. to ℈ ij. in any proper Vehicle, due

due Regard being had to the Strength and Age of the Patient.

THE next Place is juſtly given to the *Contrayerva-Root*, from which alſo a compound Medicine, which I ſhall hereafter deſcribe, is admirably contrived: The Doſe of this in fine Powder is from ℈ i. to ʒ i. in *Angelica*, or *Scordium* Water, or in Wine, *&c.*

THERE are other Roots likewiſe which daily Experience hath taught us, to be very good for the ſame Purpoſes; and with which, as Occaſion requires, many valuable Compounds are formed, in order to effect that with a united Force which they could not do ſingly; in this Claſs are the Roots of *Angelica*, *Scorzonera*, *Butterbur*, *Maſterwort*, *Tormentil*, *Zedoary*, *Garlick*, *Elicampane*, *Valerian*, *Birthwort*, *Gentian*, *Bittany*, and many others, which any Perſon that loves Variety may find in proper Authors.

BUT even Gratitude obliges me not to omit ſaying ſomewhat of *Ginger*, which I have preſcribed both in the Root powdered, and candied, many Times with great

Succeſs, for it is very powerful both to raiſe a breathing Sweat, and defend the Spirits againſt the Peſtilential Impreſſion.

FROM theſe Roots may be made Extracts, either with Spirit of Wine or Vinegar; for it is agreed by all, that the more ſubtil Particles collected together, and diveſted of their groſſer and unprofitable Parts, become more efficacious in Medicinal Caſes.

THE Leaves of Vegetables moſt uſed in Practice, are *Scordium*, *Rue*, *Sage*, *Veronica*, *Dragon*, the *leſſer Centaury*, *Scabious*, *Pimpinel*, *Marygolds*, and *Baum*, and from which, on Occaſion, are ſeveral *Formulæ* contrived.

GOOD Vehicles to waſh down and facilitate the taking more efficacious Medicines, are made of the Waters diſtilled from thoſe Herbs while they are freſh and fragrant (having not yet loſt their volatile Salt); for thoſe which are commonly kept for Ornament in the Shops are inſipid, and of little or no Worth.

A *Clyſſus* alſo of the ſame Herbs is preferrable to the Waters, made after this

this Manner; Let a Quantity of Water be drawn from the green and ſucculent Plant, and the Juice be expreſſed from another Parcel of the ſame Herb, and depurated by ſtanding; let then both be evaporated to the Conſiſtence of *Honey*, and from it a Tincture drawn with ſome more diſtilled Water and a little Spirit of Wine, which is again by Evaporation to be reduced into an Extract; alſo from the dryed Plant draw its eſſential Oil, and from the *Reſidium*, after Diſtillation, the Salt. Of the Extract take ʒ iv. of the *Salt* ʒ ß, and of the *Oil* 50 drops, and mix them together, where let them lie to incorporate more intimately with one another. The inſpiſſated Juices likewiſe of theſe Ingredients are of good Effect, and in the Winter, Decoctions may conveniently be made of them for the ſame medicinal Purpoſes; and further, that the Remedies in this Caſe may be yet the more efficacious, they may be joined with *Alkaline-Salts* diſſolved in a proper *Menſtruum*: For by this Means the Tone of the Stomach will be ſtrengthned, Putrefaction will be prevented, the nitro-ſaline *Effluvia* will be reſiſted, or at leaſt precipitated, and a *Diaphoreſis* promoted.

SOME Berries are alſo of great Uſe in Practice; as the Powder of *Ivy-Berries* given to the Quantity of one Dram in two Parts of *Elder Vinegar*, and one Part of *White-Wine*; the Spirit likewiſe drawn from *Elder Berries* would do the ſame in a Doſe of ℥ iij. or ℥ iv. the Spirit of *Juniper Berries* given to ℥ i. a Spirit drawn from green *Walnuts*, with *Treacle-Water*, as alſo from the Seeds of *Carduus*, *Citrons*, &c. had likewiſe their due Recommendations in powerfully promoting Sweat.

BUT I know nothing amongſt the *Simples* that hath ſo obtained, for Ages together, as the *Oriental Bezoar*, and which ſtill hath ſo great a Name; yet without having any Inclination to contradict a received Opinion, I have been ſo confirmed by a Multitude of Trials, that the Truth will ſpeak for it ſelf, which manifeſtly denies its Virtues to be at all equivalent to its Value: And I have really given it in Powder many times to 40 or 50 Grains, without any manner of Effect: And I dare affirm that the *Bezoar* with which I made theſe Trials was genuine.

THE

THE Powder alſo of an *Unicorn*'s Horn, ſo much cried up for an Antidote, never anſwered any good Expectations, although I had ſeveral Dozes of it given me by a Merchant, on purpoſe to try its Virtues: But that which would cure Pidgeons, Fowls, Cats and Dogs, from Arſenical Poiſons, as the worthy Gentleman aſſured me that did, had yet no Efficacy againſt the peſtilential Virulence: Yet if it was not controverted to this very Day, whether or no there is ſuch an Animal in Being as an *Unicorn*; and it ſhould moreover be granted, that the Horn hath theſe ſtupendious Virtues; the Price of it would make it purchaſeable only by the Rich; whereas in this dreadful Calamity the Populace were chiefly infected; and therefore cheap and common Medicines ſhould be contrived for them by the Phyſicians; in the Number of which, firſt occur the *Troches* of *Vipers*, given to the Quantity of ℈ iv. in compound *Scordium Water*, or the volatile *Salt* of *Vipers* given to ʒ ſs. in the ſame Vehicle. A very worthy Perſon ſent us from *New-England* ſome Troches made of the Fleſh of a *Rattle-Snake*, from which I found more Succeſs amongſt the Sick, than thoſe we commonly have here.

THE *Powder of Toads* was likewiſe Prodigiouſly extolled by every Body; but I found more Succeſs in *Spirits of Hartſhorn*, given from ℈ ij. to ʒ i. in *Plague-water*.

A Youth was ſeized with a great Difficulty of Breathing, the Arteries hardly beat, and, in ſhort, all Things ſeem'd to beſpeak him in his laſt Moments; I preſcribed him ♏ i. of the forementioned Spirits in ʒ iij. of *compound Scordium Water*; but the Symptoms continuing obſtinate, I again repeated the ſame in three Hours Time, with Addition of ℈ i. more; and five Bliſters were alſo forthwith applied, after which, in about half an Hour, he began to move his Limbs, and recollect himſelf, as if riſen from the Dead: But at laſt, when all Things were hopeful, there appeared a Diſcolouration upon one of his Legs, where a Bliſter had been raiſed, with a Loſs of Senſe very near to a Sphacelation; upon this the affected Part was deeply ſcarified, and then fomented, which, with a Repetition of the ſame Draught twice in a Day, by the Bleſſing of Heaven, again reſtored every Thing into a hopeful Way. For this Spirit is of ſuch a fiery Nature,

that

that it immediately diſperſes through the whole Body; and on Account of its great Volatility, helps to encounter with, and correct the ſaline, malignant Quality of the Peſtilence: But I need ſay no more than that it is the moſt powerful *Diaphoretick* that can be given in any Diſeaſe whatſoever.

WHENSOEVER Things are brought to Extremity, ſome have Recourſe to Mineral Preparations, in Order to drive out the Peſtilence by mere Force; amongſt which, the chief are *Mineral Bezoar*, *Sulphur Auratum*, and *Aurum Vitæ*, &c. the Preparations of which are to be met with in chymical Writers.

I am fearful indeed of being too prolix in the Enumeration of Remedies under this Claſs; although I am very ſenſible that ſome *Simples* prudently choſen may ſingly encounter a Peſtilence with Succeſs, as well as ſome other Diſeaſes: But becauſe this Evil is uſually attended with ſo many Complications, the Contrivances to oppoſe it ſhould alſo, in the Opinion of ſome, be equally and proportionably complicated; and all Forces drawn up in Battle againſt

againſt it with full Front, in Order to be equal to the Encounter. To this Purpoſe ſome of the Sons of *Eſculapius* have invented manifold Compoſitions; and ſome of them ſo prolix, as if they intended a Sacrifice of an *Hecatomb* to appeaſe the Severity of this tyrannical Deſtroyer.

IT would be entirely foreign to our Buſineſs here, to extract all the Medicines which ſome Writers abound with for this End; and it is our Buſineſs here only to take Notice of thoſe which were made Uſe of with Succeſs in the late Sickneſs; and in this Performance, both Gratitude and Duty oblige me to begin with ſuch as were ordered by the *College*, amongſt which firſt occurs their *Plague-water*,

℞ *Radic. tormentillæ, angelicæ, pæoniæ, zedoariæ, glycirrhizæ, helenii ana ℥ ß. fol. Salviæ, Chelidoniæ, rutæ, ſummitat: roriſmarini, abſynthii, roris ſolis, artemiſiæ, pimpinellæ, dracunculi, ſcabioſæ, agrimoniæ, meliſſæ, cardui, betonicæ, centaurii min. fol. & flor. calendulæ ana M.* i. (*alii addunt flor. papaveris errat: paralyſ. ana p.* iij.) *inciſa, & contuſa infundantur per triduum in lib.* viij. *vin. alb. opt. dein F. cauta diſtillatio & liquor uſui reſervetur:* But here it is by the

the Way to be taken Notice, that in the Cure of a Peſtilence the medicinal Forms are not to be pompouſly contrived with a long Catalogue of Ingredients, but carefully adapted in every Reſpect to the Circumſtances and Exigencies of the Infected. It is alſo to be obſerved, that this Water is by no Means indifferently to be given to all; or to every one in the ſame Manner; as for Inſtance, not at all to Women under their menſtrual Purgations, leaſt it ſhould provoke them to flow too immoderately; nor is it to be allowed to Women with Child, for Fear of Miſcarriage.

MOREOVER the *College* hath appropriated other Medicines for the ſame Ends, from which we may extract the following:

℞ *Diaſcordii, vel Mithridatii* ℥ j. *vel* ʒ ß. *fiat diſſolutio in lib.* ß. *poſſetalæ alteratæ cum partibus æq. vini albi, & aceti opt. Miſce detur hæc potio fervefacta, agro ſtragulis benè cooperto.* Or,

℞ *Radic. Angelicæ* ʒ ij. *tormentillæ* ʒ j. *infuſis, & decoctis in aq. font. q. ſ. ad tertiæ p. conſumptionem, adde ſucci limonum* ʒ iij. *vel aceti* ʒ j ß. *bibat correptus* ʒ vij, *vel* viij. *hujus apozematis calefacti:* Or, ℞ *Sem.*

℞ *Sem. petaſitidis* ʒ j. *ſem. citri gr.* xxvj. *cuchianella* ʒ ß. *caphuræ gr.* xij. *miſce, fiat pulvis, ex hauſtu æq. cardui, calendulæ, vel ſcordii ſumendus.* Or,

℞ *Expreſſionem ſtercoris vaccini recentis in aceto acerrimo infuſi ad cochl.* vij. *vel* viij. Or,

℞ *Theriacæ Androm.* ʒ ij. *Elect. de ovo vulg.* ℥ ß. *factâ diſſolutione in hauſtu poſſetalæ carduatæ, fiat potio, bibatur calefacta expectando ſudoris exundationem.*

WE ſhall hereafter come to take Notice of thoſe Medicines which by the *College* were contrived for the Poor; now therefore take thoſe which by daily Experience were found of moſt Efficacy, and deſerve to ſtand firſt on that Account.

A Compound Anti-peſtilential Decoction.

℞ *Radic. Scorzoneræ, petaſitidis ana* ℥ v. *angelicæ, tormentillæ C. C. C. ana* ℥ j. *fol. Scordii, ulmariæ, meliſſæ ana M* j. *flor. calendulæ, borrag. ana M* ſs. *bacc. juniperi, hederæ ana* ℥ j. *ſem. citri* ʒ ij. *coriandri præp.* ʒ j. ſs. *caricas numero* iij. *inciſa, & præp. in duabus p. aqu. font.*

&

& tertia p. aceti opt. infundantur, & decoquantur, ſub finem addendo glycyr. taleolatim ſecta ℥ j. *in expreſſionis* lib. iij. *diſſolve theriacæ Androm.* ℥ iij. *nitri puriſſimi* ʒ iij. *& adms. interdum Spir. Vitrioli, vel Sulph. guttas aliquot ad leviuſculam aciditatem.* Sometimes alſo we add hereunto Syrup of the Juice of *Citrons*, or *Baum*; but when Matters are in the utmoſt Hazard, the Patient's Life is more to be conſulted than his Palate; and all *Sugars* we often omit, as they are both a Load upon the Medicine's Operation, and in no wiſe fit for a Stomach affected with a Contagion. The Doſe of this Decoction is from 8 to 10 Spoonfuls every 4 Hours.

An Alexiterial Water.

℞ *Radic. Contrayerva* ℥ j. *ſcorzoneræ hiſpan. angelicæ ana* ℥ j. *ß. fol. Scordii galegæ ana M.* iij. *fl. roſ. rubr. calendulæ ana p.* iij. *raſ. C. C. eboris ana* ℥ j. *bacc. juniperi, hederæ ana* ℥ ij. *in aceto ſambucino per triduum macerat: dictamni cretici, cortic. limonum ana* ℥ j. *ſucc. meliſſæ, cardui, angelicæ ana lib. ſs. aceti opt. lib.* ij. *diſtilla in organis humilioribus poſt. deb. infuſionem.* Or,

℞ *Succ. Scordii, acetoſæ ana lib.* j. *galegæ lib.* ſs. *ſucc. limonum, aceti opt. ana lib.* j. *theriac. Androm.*

Androm. ℥ iij. *digere & diſtilla Doſ. ad cochl.* vj. *vel* viij.

Or,

℞ *Aquæ Alexiteriæ* lib. ij. *theriac. Androm.* ℥ iij. *Elect. de ovo* ℥ j. *digere, filtra, & uſui ſerva, Doſ. ad cochl.* vj. *vel* viij. *phialam agitando.*

Or,

℞ *Summit abſynthij, rutæ ana* M j. *Scordii, dracunculi ana* M iij. *aceti ſambuc.* lib. iij. *diſtilla in veſicâ, tum in liquore diſſalve ſalis fraxini, carduii, vel Scordii Vitriolat.* ʒ iij. *Doſ. ad cochl.* iv. *vel* v. *efficacitèr elicit ſudorem hæc Aqua.*

A Treacle Water.

℞ *Radic. Aſari Virgin.* ℥ ſs. *contrayervæ* ℥ j. *tormentillæ, ſcorzon. petaſitidis ana* ℥ j. *p. ſem. cardui, calendulæ, angelicæ, citri ana* ʒ iij. *quibus præp. affunde ſpir. vini, aceti opt. ana* lib. ſs. *diſſolve theriac. Ven.* lib. ſs. *adde croci Ang.* ʒ ij. *miſce indantur organis vitreis, & poſt octiduanam ſuper cineres digeſtionem, diſtilla, in roſtro Alembici ſuſpendendo caphuræ* ʒ iij. *Doſ. ad cochl.* v. *vel* vj.

A

A Diaphoretick Oil.

℞ *Salis Abſynthii, vel Scordii, ſive Rutæ* ℥ ij. *flor. Sulphuris ter, quaterve ſublimat.* ℥ j. *ol. Juniperi* lib. j. *invicèm miſc., per biduum calore mediocri benè occluſa relinque, dein per Retortam diſtilla, etiam alterâ vice diſtilla, digerendo per biduum, addendo ſalis abſynthij* ℥ j. *Doſ. ad cochl. unum, vel duo, ex aq. angelicæ, vel ſcordii, ſaccharatâ, ad olei* v. *a. e. Commixtionem.*

An Alexipharmick Vinegar.

℞ *Radic. Scorzon. Hiſpan. Chelidoniæ mai. ana* ℥ ij. *contrayervæ* ℥ i. *angelicæ, tormentillæ ana* ℥ i. *p. fol ſcordii, meliſſæ, ſcabioſæ ana* M ij. *ſummit. Rutæ p.* ij. *dictamni cret.* M ſs. *flor. ſambuci, calendulæ ana p.* iij. *gr. Junip.* ℥ ij. *raſ. C. C. eboris ana* ℥ j. *ſem. rutæ, cardui, citri ana* ʒ ij. *portulacæ* ʒ v. *cinam. opt.* ℥ ſs. *caryophyll.* ʒ iij. *Theriac. Androm.* lib. ſs. *quibus ſ. a. præp. affunde Aceti ex vin. albo acerrimi* lib. v. *vitro opt. obturato digere per triduum, bis, terve de die conquaſſando, tum cautè diſtilla, ſuſpenſis camphoræ, & croci ana* ʒ ij. *in roſtro Alemb. Doſ. ad cochl.* v. *vel* vj.

BUT

BUT ſufficiently of theſe; from whence it is eaſie for any one to gather, why liquid Medicines, and eſpecially when warmed, are preferable to others in the Form of *Boles* or *Electuaries*; that is, becauſe of their more expeditious and more effectual Operations.

BUT becauſe many of the Infected have a Loathing at Stomach, and an Inclination to vomit, in the ſame Manner as an Overload of Eating and Drinking occaſions, Medicines in ſolid Forms ſuit beſt with ſuch, as they are not ſo eaſily thrown up, and adhere better to the Sides of the Stomach: Of this Kind we have the following Compoſition, which at taking may be made into Boles of ʒ ij. each adding thereunto *Salt of Carduus*, or *Wormwood* ə j. or more or leſs, according to the Exigency of Symptoms.

℞ *Elect. de ovo mineralis* ℥ j. *theriac. Androm.* ℥ ß. *pulu: ſerpentariæ virgin.* ʒ v. *cuchianellæ* ʒ iij. *croci pulveriz.* ʒ ß. *cum Syr. è ſucco meliſſophyll. vel citri, coagmentetur maſſa.*

The

The famous Sir Theodore Mayerne's *Electuarium de Ovo.*

℞ *Ovum vulgariter ut in Pharmacopœia* Londinenſi *præp. de quo ſume, & ſem. ſinapios, vel erucæ ana* ʒ i. *Antidoti Saxonicæ* ʒ ſs. *lapidis prunellæ* ʒ v. *Antimonii diaphoret. fixiſſimi, & croci metallorum ſimul uſtorum* ʒ iij. *pulv. ſcordii, rutæ, zedoariæ ana* ʒ ij. ſs. *Theriacæ ven. veteris* ʒ iv. *Philonii Turneri* ϑ vij. *gr.* ij. *miſce & cum ſpir. Theriac.* ʒ iij. *& mellis de ſpumati q. ſ. Fiat Elect. molle, Doſ. ad* ϑ iv. *vel* ʒ ij. *corroborand. adjiciendo corda, & jecinora* vi. *viperarum v. a. e. præp.* But it is to be obſerved in this likewiſe, as in other Antidotes, that a long Fermentation of the Ingredients together in a Maſs is very neceſſary, becauſe by that Means they more intimately mix with one another.

BUT if the Body be too open, the *Lapis Contrayerva* is very ſuitable, and 'tis thus made:

℞ *Pulv. radic. contrayerva rec.* ʒ j. *ſerpentariæ virgin.* ʒ ij. ſs. *extract. radic. Angelicæ, tormentillæ ana* ʒ ij. *pulv. C. C. philoſophicè calcini*

chelarum Cancrorum præp. pulv. Corall. rubr. ana ʒ j. ß. *Antimonii Diaphoret. vel potius Diaphor. Jovis* ʒ iij. *cuchianellæ* ʒ ß. *croci* ϑ j. (*aliqui addunt lapid. bezoar. orien.* ϑ ij.) *ambræ gryſ.* ϑ ß. *cum gelatinâ ſpoliorum ſerpentum, vel C. C. fingantur globuli ſ. a. exiccandi, Doſ. ad* ϑ ij. *vel* ʒ j. *è vehiculo idoneo*, &c.

FOR the ſame Purpoſe alſo is the celebrated *Orvietan* thus compounded, and given ʒ ij. at a Doſe.

℞ *Cardui bened. totius eupatorii mai. & min. ana* ℥ ß. *ſcordii, ariſtolochiæ utriuſque ana* ʒ v. *viperinæ, h. e. echii, gentianæ, bacc. Junip. biſtortæ ana* ℥ j. *bacc. lauri, tormentillæ, dictamni albi ana* ℥ ß. *carlinæ, angelicæ ana* ℥ j. ß. *rhabarb. imperatoriæ, ſcorzon. hiſpan. valerianæ ana* ℥ ß. *morſus diaboli, calami aromat. ana* ℥ iv. *Theriac. Androm. opt.* ℥ iij. *corda, & jecinora* 12 *viperarum, terantur terenda ſubtiliſſimè, & cum ſ. q. mellis deſpumati fiat Elect. per tres menſes fermentand.*

IT is to be obſerved, that theſe and the like Medicines, whether *Galenical* or *Spagyrical*, which cannot be prepared as ſoon as *Aſparagus* can be boiled, ought to be always in Readineſs.

THE

THE general Remedies being thus provided, the exact Way of Living and Diet comes to be conſidered: And firſt of all, whenſoever the Patient is taken, he muſt immediately be put to Bed; wherein we have found it much more ſerviceable to be covered with Blankets, than Linen Sheets, becauſe the Woollen much better encourages Sweating, and alſo abſorps it, and keeps the Body cleaner all the while; for Linen being not ſuited to drink up the Sweat, the Pores of the Body, at ſuch Times as open as poſſible, will be choaked up and obſtructed by the Moiſture hanging upon the Skin, and giving alſo a Chillineſs to the Fleſh: To all therefore who ſweat thus, Change of Cloaths is to be denied, for the Patient takes Harm by clean Coverings, not ſo much from any prejudicial Quality of the Soap abounding in them, (according to the Opinion of *Diemebrooeck*) as from a Dampneſs which is inſeparable from them, and the Approach of Air which is unavoidable in the Shifting; both which will check the Sweating.

UNLESS the Patient hath Occaſion for a Vomit, or Purge, or a Clyſter, immediately

diately upon his going to Bed, *Alexipharmicks* ought to be given, and if thrown up by Vomiting, repeated until the Stomach is ſtrengthned, and can retain them; and I have always obſerved, that ſuch Nauſeouſneſs goes off as ſoon as Sweat breaks out.

SOME indeed of a very dry Temperament, or from a Conſumption of their Humidities by the febrile Heat, do not eaſily get into a Sweat; ſuch therefore I ordered liberally to drink of a medicated Poſſet-Drink; in order by this Means both to render the viſcid Humours more fluid, and contemper and aſſwage the feveriſh Heat.

THE Milk with which this Poſſet-Drink was made, was turned with two Parts of Ale, and one Part of Vinegar, in which had been boiled the Roots of *Scorzonera* and *Butter-bur*; the Leaves of *Baum*, *Scabius*, and *Wood-ſorrel*; the Flowers of *Borage* and *Marygolds*; the Raſpings of *Ivory* and *Hartſhorn*, and *Carduus* and *Coriander* Seeds.

THESE Sweats we uſed to keep up for two or three Hours at a Time, as the Strength would bear them; and until the mor-

morbifick Venom was rarified and ſubtilized, ſo as to be exhaled quite away along with the viſcid Humours: Sleep alſo was induſtriouſly kept off, although ſometimes, through meer Wearineſs, the Patient would drop into a Doze.

AS much Care, beſides that of Sweating them, was taken to ſupport the Strength and Spirits of the Infected, by ſuch Aliments as the Stomach was able to receive; for which End I ordered them Bread ſoaked in Wine, poached Eggs with *Juice of Citrons, Pomegranates,* or *Elder Vinegar,* as alſo cordial Waters, Broths, Gellies, and ſometimes alſo generous Wines.

THE Broths then uſed were made by boiling in Chicken-Broth the Roots of *Scorzonera,* the Leaves of *Pimpinel, Meadowſweet, Wood-Sorrel, Borage,* Raſpings of *Hartſhorn,* and *Dactyls,* with a Piece of White Bread, and a little *Saffron* tied in a Nodule; and the Fat was not taken off unleſs in a Looſneſs or Loathing at Stomach: Of the Uſefulneſs of Gold boiled in theſe Things I have nothing to ſay: Of this Broth was alſo ſometimes Emulſions made with the *Seeds of Citrons, Plantain, blanched Almonds,* and *Pearl-Sugar.*

Mayerne's *celebrated Cordial-Water.*

℞ *Radic. carlinæ* ℥ vj. *zedoariæ, ſcorzoneræ, imperatoriæ, gentianæ, vincetox. valerianæ, tormentillæ, biſtortæ, petaſitid. dictamni, bardanæ, pimpinella totius ana* ℥ iv. *fol. cardui, oxytriphyll. ſcordii, ana M* v. *ulmariæ, ſcabioſæ, morſus diaboli, meliſſæ, pentaphyll. menthæ, rutæ, bugloſſæ, flor. calendulæ, hyperici ana M* iv. *limones, & Aurant. cum corticibus ana numero* xx. *flor. ſalviæ, roriſm. ana M* ij. *corda vervecina numero* vj. *corda viper. numero* xx. *vini generoſi* Hiſpan. *lib.* xx. *infuſione deb. peractâ, fiat Diſtillatio cauta in B. M. hujus Aq. Doſ. ad cochl.* iv. *vel* v. *dulcor. (ſi ita viſum) cum ſacchari perl. q. ſ.*

BUT the Patients were kept from Aliments of this Kind until ſome Relief was found by *Alexipharmicks*; and then only ſo much was allowed of as their Strength would admit of, for that was to be helped, and not loaded; but as they grew better, more was allowed: Yet an Hour or two after ſuch Refreſhment, notwithſtanding the Diſtemper ſeemed to be extinguiſhed, *Alexipharmicks* were repeated, until all Suſpicion of its Remainder was removed; becauſe ſome-

ſometimes it would on a ſudden recruit after it had ſeemed to be quite gone.

THE Infected were kept cloſe in their Beds the whole Time of the Diſeaſe; and thoſe who would not be thus governed, bitterly repented of their Obſtinacy; for upon Checking a *Diaphoreſis*, and Confining the peſtilential Venom, moſt grievous Pains and Diſorders enſued: And they who were delirious, were tied in their Beds, to prevent their doing either Injury to themſelves, or thoſe who attended upon them.

IF a Drowſineſs came on at at the firſt Attack of the Diſtemper, or in the Beginning to Sweat, the Patient was forcibly kept awake; although, when ſome Appearance came of Recovery, a little Sleep was indulged, to recruit the Spirits, but not beyond four Hours together; for if they ſlept longer, they were waked to take their Medicines.

IF the Belly was coſtive, and the Diſtemper on its Declenſion, Clyſters were uſed with Benefit, made of a Decoction with the Roots of *Scorzonera*, *Tormentil*, and *Marſh-Mallows*; the Leaves of *Scordium*, *Meadow-ſweet*,

and *Violets*; Flowers of *Chamomil* and *Elder*; *ſweet Fennil-Seeds*, and *Anniſeeds*; and in it was diſſolved the Yolk of an *Egg*, *brown Sugar*, and ℥ iij. of *Diaſcordium* or *London Treacle*; and when more Haſte was required for Evacuation, ℥ j. or ℥ j. ſs. was added of the Infuſion of *Crocus Metallorum*. After the Clyſter came away, the Patient was allowed a Draught of generous Wine, or of ſome Cordial Julap, or Broth, *&c.*

AND whereas a Languor upon the Spirits very much contributed (as before obſerved) both to the Propagation and Violence of the Contagion; to remove ſuch an Inconvenience, grateful Scents were made uſe of, ſuch as are known to comfort the Brain; ſometimes *Vinegar of Roſes* was ſprinkled upon live Coals, and at others, were burnt ſuch things as *Styrax*, *Labdanum*, &c. of which more hereafter, and all things avoided which might give any Offence to the Noſe by its Smell.

HITHERTO we have treated of Antidotes, and the Regimen of our Patients; next we come to external Helps, amongſt which *Bliſters* demand the firſt mention; and whoſe frequent and ſucceſsful Application

cation removes all Controverſy about their Uſefulneſs.

BLISTER-Plaſters were applied to ſeveral Parts; as the Nape of the Neck, within-ſide the Arms, the Thigs, and Legs; and by theſe the Veſſels were warmed, the Juices rendered more fluid, a *Stimulus* given to the Sluggiſhneſs of Nature, and Paſſage made ſufficiently large, for the Evacuation not only of ſuperfluous Seroſities and noxious Humours, but alſo for the peſtilential Poiſon, which by this Artifice ſeemed to be turned out this Way; not to ſay any Thing of the Revulſion made hereby of Venom from the nobler Parts.

FOR this Purpoſe, I once ordered a *Bliſter-Plaſter* to be applied within-ſide the Thigh, a little below a Buboe in the Groin, but by the Careleſneſs of the Nurſe, it was laid upon the Buboe it ſelf; which happening to prove fortunate, after obtained in Practice, in Expectation thereby to prevent the morbifick Humour from going back again, and to forward its Suppuration; but altho' this was of Advantage in ſome Caſes, it was yet much ſuſpected by the more cautious Phyſicians and Surgeons, as for the moſt Part it brought

brought too great an Inflammation all round it, and promoted a Strangury, which, by Exceſs of Uneaſineſs, greatly waſted the Spirits, and ſunk the Patient's Strength.

THAT theſe Applications may certainly anſwer their End, the moſt ſharp ought to be uſed: The following Compoſition never failed me in all my Practice; but before its Application, the Part was always rubbed with Vinegar.

℞ *Picis navalis* ℥ v. *galbani colat.* ℥ j. *ceræ* ℥ j. ſs. *quibus ſimul liquatis, & ab igne ſemotis, adde pulv. cantharidum præp.* ʒ vij. *vel* ℥ j. *fermenti veteris, ſem. amcos ana* ʒ iij. *cuphorbii* ʒ j. *cum aceti ſcillit. q. ſ. incorporentur, aſſiduè agitando, quouſque cogantur in Emplaſtri maſſam.*

THE Parts thus veſicated were never ſuffered to heal, till the Malignity of the Diſeaſe was ſpent; and to prevent their ſudden drying up, they were continually ſtimulated by *Melilot* Plaſters ſprinkled over with ſome Powder of *Cantharides*; which kept up a conſtant Drein of noxious Humours; but to aſſwage the great Heat and Inflammations, ſometimes occaſioned hereby, *Cole-wort* Leaves were applied to them.

YET

YET although *Epiſpaſticks* did ſo much Service to the Infected, and ſufficiently made amends for the Trouble and Pain they gave; yet they were not indifferently ſuitable to all Perſons; As for Inſtance, where there was an Heat of Urin, or a continual Inclination to piſs; where the *Sphincter* of the Bladder was inflamed, or ulcerated, in an Hemorrhage; or to Women with Child, or having the *Menſes*; and laſtly, where there was a great *Languor* upon the Spirits; it is alſo diligently to be conſidered when *Epiſpaſticks* are applied to Buboes or Carbuncles near upon Suppuration, that they do not fuſe the Humours too much, to admit them going into a laudible *Pus*, and give ſuch a *Stimulus* to the Parts, as may ſink the Spirits, and fruſtrate other Endeavours of Nature to help her ſelf.

BESIDES *Epiſpaſticks*, it is not loſt Labour to apply proper Things to the Feet; I commonly uſed a Plaſter made of the compound *Bettany* Plaſter, adding to it ſome *Euphorbium*, *Saffron*, and *London Treacle:* And I found this to do more Good than *Cataplaſms*, which ſome, however, liked better to uſe, and were made of *Bryony* Root ſteeped in Vinegar,

Vinegar, the Fleſh of *pickled Herrings*, *black Soap*, *Rue*, *Scordium*, and *Arum*, with a ſufficient Quantity of Vinegar: Sometimes alſo Pidgeons were applied to the Feet.

BUT theſe, and other Medicines of the ſame Rank, were not applied in any Expectation to draw away by them the peſtilential *Miaſmata* as by Attraction; but becauſe the Multitudes of Pores, and their Largeneſs in the Soles of the Feet, gave ſuch Things an Opportunity of ſending in that warmth, as would keep the Animal Humours more fluxile, and cheriſh the natural Heat that was almoſt extinct; and from thence the whole Body would be refreſhed by their Influence: Applications were likewiſe made to the Wriſt with the ſame View.

AND thus having gone through the curative Part of a Peſtilence in general, we now come to the Management of particular Symptoms; and firſt of all of the Buboes,

IT highly concerns all who are concerned for the Sick in theſe Caſes, both Phyſicians and Surgeons, to attend with Diligence to the Nature of theſe Tumours, and have their ſeveral Differences ready in their Minds,

Minds, that at their firſt Sight they may know their Condition, and uſe Means of treating them accordingly. And firſt of all it is to be enquired, whether they are moveable or fixt? Whether ſoft or hard? Whether depreſſed or prominent? Whether ſmall or great? Whether contracted or broad? Whether with, or without Pain? And laſtly, whether inflamed or not?

WHENSOEVER a Buboe is uncertain and dodges, ſometimes appearing, and then again going back, all Means is to be uſed to fix it; and this is very ſucceſsfully done by cupping upon the Glands, which will fix a permanent Tumour upon them.

TO Buboes juſt in their firſt Formation, we have indeed applied *Diſcutiens*, and very powerful ones too, in Order to diſſipate them; and although they have ſeveral Times endeavoured to ſettle, yet we have not deſpaired to conquer the Enemy this Way: But we always found it for certain, that they who went through ſuch Fluxes and Refluxes of the peſtilential Venom, never recovered in ſuch a perfect Manner, as they whoſe Buboes immediately fixed, and after Suppuration threw out a great deal of Matter.

IF the Tumour is hard and painful from too great a Tenſion upon the glandulous Parts, not giving Room enough to receive the protruding Humours, the Part affected may be anointed with *Oil of Lilies, Roſes, Elder,* &c. if no Inflammation forbids ſuch a Method; in which Circumſtances all Oils and Ointments are to be ſuſpected, as they obſtruct the Pores, and are no Ways ſuitable to the Nature of the nitro-ſaline peſtilential Venom. When an Inflammation therefore is upon any Part, which is eaſie to be known by its Heat and Colour, it is better to make Uſe of the *Mucelages of Linſeed* and *Fenugreek*, with *Elder Vinegar*, and *London Treacle*; or a *Cataplaſm of Wheat-Flower, Fenugreek* and *Linſeed, Elder Flowers, white Bread Crumbs*, the *Yolk of Eggs*, and *Powder of Saffron.*

THE *London* Phyſicians at this Time ſpared no Trouble nor Application, to manage the Buboes rightly; ſome of the *Cataplaſms* therefore by them daily uſed I ſhall here infert.

℞ *Cœpam majuſculam, quam v. á. c. excavatam imple ſummit. rutæ dcb. exiccat. & pulveriz.*

℥ ij.

℥ ij. *indantur etiam theriac.* Lond. ℈ iv. *foramen operculo ſuo obturetur, cœpa deinde chartâ bibulâ involuta ſub cineribus aſſetur, cui adde ficum methodo eâdem aſſatam, cum ol. lini, liliorum alb. ana q. ſ. ſimul macerentur, & conficiatur* cataplaſma, *applicandum calidè, bis de die immutandum:* This is alſo good againſt the Bites of venomous Creatures.

Or,

℞ *Fol. rutæ, ſcordii contuſ. ana M ß. medullæ carnis ficuum* ℥ ij. *flor. meliloti p. ß. ſalis marini pulveriz.* ℥ iij. *fermenti veteris* ℥ *ß. cum ſ. q. aceti, paretur Cataplaſma.*

Or,

℞ *Rad. liliorum, althææ, cum aceto macerat: ana lib. ß. ſem. lini, fœnugraci ana* ℥ *ß. carnis ficuum* ℥ iij. *confectionis ſinapi, cum theriac. ana* ℥ *ß. axungiæ ſuillæ q. ſ. F. cataplaſma.* Or, according to *Mayerne*, from whom I learned the Rudiments of Practice.

℞ *Succ. apii* ℥ ij. *meliſſæ* ℥ j. *pimpinellæ* ℥ j. *ß. cœpas majores Numero duas, ad intenerationem, ſive putrilaginem ſub cineribus cautè aſſatas, alliorum bulbos Numero* vj. *clavos juglandium maj. vetuſt.*

vetuſt. Numero iv. *tritis alii bulbis, & clavis, affunde ſuccos, tum adde Cæpas, in mortario marmoreo cum aceti ſcillit. q. ſ. agitentur, & cogantur in Cataplaſmatis conſiſtentiam.*

BUT the Hardneſs, pricking Pain, and intenſe Heat of the Tumour continuing, Medicines were uſed to diſſolve ſuch Hardneſs, and aſſwage the Pain and Heat: As,

℞ *Rad. liliorum alb.* ℥ ij. *porrorum, medullæ carnis ſicuum ana* ℥ j. *ſem. lini* ℥ ſs. *flor. Sambuci, meliloti ana p. ß. micarum panis alb.* lib. ſs. *coq: in ſ. q. lactis, addendo ſub finem ol. roſ. liliorum alb. vel ſambuc. ana q. ſ. ut F.* Cataplaſma.

Or,

℞ *Fol. Scabioſæ, acetoſæ ana* M ij. *chartâ bibulâ involut. & cineribus ſcintillantibus ſubditorum, quibus adde fermenti veteris* ℥ ij. *ſalis tantillum, agitentur probè in mortario cum ſ. q. axungiæ ſuillæ, ad uſum præmemoratum.* But that I may not be too tedious in reciting particular Forms of this Kind, any neceſſary Variations are left to the Diſcretion of every Phyſician in his own Practice.

WE

WE do not wait for the Suppuration of a Buboe until it breaks of it ſelf, when the Pain and other Symptoms continue very ſevere without Remiſſion; beſides, there would in doing ſo be Danger of waſting the Spirits too much, and letting the morbifick Matter retreat, beſides the Smalneſs of the Orifice, which, when they open themſelves, is ſeldom large enough to give due Vent; we therefore open them by Inciſion, or to prevent Mortification, by a potential Cautery; and for the ſame Purpoſe it hath alſo been many Times found reaſonable to mix the milder Cauſticks with Digeſtives.

YET although common Experience atteſts to the Advantage of Cataplaſms, as they wonderfully cheriſh the languid and almoſt extinguiſhed natural Heat, ſupple the neighbouring Parts, relax the Skin, and contemper and aſſwage ſharp Humours; yet, I ſay, becauſe their frequent Repetition is ſometimes on may Accounts inconvenient and diſagreeable, I uſed to ſubſtitute the following *Cerate* in their Room.

℞ *Emp. Oxycrocei* ℥ iij. *galbani colat gum. euphorbii ana* ℥ j. *picis navalis* ℥ ij. *è liquatis ſimul*

cum ol. chamemeli, & liliorum, v. a. e. F. maſſa pro empl. And I am bold enough to affirm, that with this I have prevented the Want of a Surgeon in more than a thouſand Inſtances: But when a Buboe is artificially opened, it is the moſt proper to do it in ſome depending Part of the Tumour; taking Care not to wound the larger Veſſels and Muſcles.

BUT whether a Buboe breaks of it ſelf, or is opened by Inciſion, it is to be waſhed and cleanſed with a *Lixivium* of *Aſhes, Scordium, Betony, Bugloſs, Sanicle,* &c. in which alſo is diſſolved ſome *London Treacle:* And the following Mixture I have found very good for this Purpoſe, conſiſting of *Birthwort Root, Myrrh, Aloes,* and *Saffron,* infuſed in *Spirit of Wine,* and to the ſtrained Tincture, adding a little *Oil of Turpentine.* Furthermore, to promote Digeſtion, and prevent Putrefaction, the following may be applied:

℞ *Mellis roſ.* ℥ i. *terebinth. cum vitello ovi ſolut.* ℥ ſs. *theriac. Lond.* ʒ iij. *farinæ tritici* ℥ ij. ſs. *cum ol. hyperici & ſambuc. ana q. ſ. coq. in Cataplaſmatis conſiſtentiam.*

Or,

Or,

℞ *Ung. baſilic. p. duas, linimenti Arcæi p. Tertiam, ol. terebinth.* ℥ ſs. *M. S.* But here it is to be obſerved, that Detergents are by no Means to be uſed, unleſs the Ulcer is foul; as alſo that to appeaſe the Enormity of Pain and Inflammation, by *Opiates* and Repellers, is a moſt pernicious Practice, becauſe it drives back the Venom upon the nobler Parts; and alſo by their frequent Continuation, is a Sphacelation endangered upon the Extremities.

THESE Ulcers are likewiſe by no Means to be healed up until they are well cleanſed, and all the peſtilential Symptoms quite diſappear. But here I cannot but remark, that theſe Ulcers do heal much eaſier than any other when the Venom is fully conquered: And in the Cure, it chiefly concerns the Surgeon to prevent the Lips growing callous, becauſe ſometimes that Error is not eaſily again remedied; when the Ulcer is well cleanſed, the ordinary *Sarcoticks* uſed in the common Method will ſoon fill up the loſt Subſtance: To pre-

vent Repetition, the *Parotides* are to be treated after the ſame Manner as *Buboes*.

AFTER this tranſient View, our Method now brings us to the Cure of *Carbuncles*; ſince therefore theſe Eruptions have their Riſe from a peſtilential *Lixivium*, thrown upon ſeveral Parts of the Body, and their burning them into an *Eſchar*, the Buſineſs of a Surgeon herein is directed to three main Intentions.

1. THAT the *Carbuncle* does not ſpread too far, like a Gangrene, knowing no Bounds.

2. TO bring it as ſoon as poſſible to a Separation; and,

3. TO cure it as carefully as it can be done.

FOR the firſt Intention, ſuch Remedies are ſuited which give a Reſtriction to the Part, ſo that the venomous Particles cannot ſpread; and ſuch alſo as aſſwage the diſtempered Heat, and cheriſh and preſerve that which is natural.

BUT

BUT the Cure of a Carbuncle is varied by its Nature, Progreſs, and Situation; and is accordingly to be treated ſometimes with more, and at others with leſs Severity. In this Caſe Benefit is ſometimes received from a Cataplaſm with roaſted *Garlick*, *Soot*, *London Treacle*, and *Oil of Turpentine*; Or,

℞ *Fermenti veteris* ℥ ſs. *allii aſſati* ℥ ij. *ſtercoris columbini* ℥ j. *confec. Sinapi* ʒ v. *euphorbii* ʒ ij. *cum ſ. q. ſaponis nigri F. Cataplaſma.* But it is to be obſerved, that in the Application of theſe Cataplaſms, which are very ſharp, the utmoſt Caution muſt be uſed, that a Pain is not aggravated thereby beyond the Patient's Power to bear; that the Humours be not colliquated, and thrown upon weaker Parts; and that an immoveable *Eſchar* be not made thereby.

WHEN the *Eſchar* does not fall off, nor any Signs of Separation appear, Unguents and Oils are not to be blamed; but if the Carbuncle ſpreads further, it will be neceſſary to have Recourſe to more effectual Means; in which Caſe, neither the Tenderneſs of Sex or Age is to be regarded. Sometimes the peſtilential Venom is to be

drawn out by Cupping, or Scarrification, or *Epiſpaſticks*: Sometimes alſo for the ſame Purpoſe is applied the bare Rump of a Fowl, repeated until theſe Creatures appear not to be hurt by it; for this natural Warmth ſooths the vital Heat of the Part it is applied to, and entices away the morbifick Venom through the Pores; Pidgeons uſed alive, and warm Sheeps Lights, have likewiſe been obſerved thus to aſſwage the Acrimony of this peſtilential Virulence.

THE *Eſchar* is ſometimes got off by Burning, and ſometimes by Inciſion; I never indeed found any thing more effectual than the actual *Cautery*; and in this Practice of ours we differ not from the celebrated *Concoregius*, who tells us, *pag.* 39. that in his Time they were wont to burn the Carbuncle with a red hot Iron. There are very convenient Inſtruments amongſt the Surgeons for this Operation, which they call the *Buttou*, being ſo ſhaped; but they are of little Service, except the Burning extends to the Compaſs of the Eruption; and the Iron is by no means to be taken away, until the Patient is ſenſible of it; but to get off the *Eſchar*, the middle Part muſt be burnt deepeſt.

AMONGST

AMONGST many other Advantages, I ſhall mention but a few that are received from the actual *Cautery* in theſe Caſes; for from hence the Parts affected are rendred more firm and ſtrong; hence the Veſſels are more aſtringed; hence the ſubtile *Miaſmata* are rarified and evaporated; hence the Poiſon is corrected and dried up; and laſtly, hence the languiſhing Heat is quickned; and, not to uſe many Words, the peſtilential Venom ſeems to be deſtroyed by Burning, no otherwiſe than the Bites of poiſonous Creatures are cured after the ſame Manner.

AS for what is done by the Knife, the Infected are certainly as much benefited by it, as by the actual *Cautery*; eſpecially if the Inciſion be made deep, and goes to the Root at the Centre; for by this may be made a very expeditious Elevation and Separation of the *Eſchar*; and this Means is more particularly to be uſed where a Gangrene is threatned; but in doing it, great Care muſt be taken, as before hinted, that there is not made any Effuſion of Blood by cutting the larger Veſſels, eſpecially the Arteries.

BUT when this Separation is once finiſhed, whether it be by a Knife, or by Burning, or of its own Accord; the next thing is to peal it off; and this is frequently aſſiſted by moiſtening it with new Butter, Oil of *Elder*, or Oil of *Lilies*. The *Eſchar* is likewiſe to be looſened gradually, and not too haſtily; that is, a kind of Maturation is to be waited for. After the Carbuncle is fallen off, Care muſt be taken to cleanſe away the *Sordes* upon it, and promote Digeſtion by the Uſe of ſuitable Applications; and every thing elſe carefully managed, as before directed in the Cure of Buboes.

LASTLY, Incarning is gradually to be effected, and the Ulcer ſlowly healed over; for by being too haſtily cloſed, it is not uncommon to find ſome peſtilential *Miaſmata* lurking behind, which afterwards prove miſchievous, and often fatal, as may eaſily be gathered from a preceding Hiſtory, and many others not here mentioned.

BUT becauſe ſometimes the Parts where Carbuncles ariſe, cannot be cleanſed conveniently from the morbid Humours, whence the Cure proves ſlow, or cannot be effected at

at all, the circumjacent Parts at firſt ſhould be guarded by Defenſatives, which would aſtringe the Laxity upon thoſe Parts, keep the Paſſages clear, and give Room for the due Motions of the Juices and Spirits, while at the ſame time they prevent the Exhalation of the natural Heat; But if notwithſtanding the utmoſt Care, Sphacelation comes on, immediate Recourſe is to be had to Embrocation, with the following.

℞ *Cinerum abſynthii, ſcordii, cardui, centaurii min. ana* ℥ ij. *e quibus parctur lixivium, indendo flor. chamemeli, ſambuci, meliloti ana* M. j. *liquoris limpidi* lib. ij. *adde ſpir. vini opt.* lib. ſs. *diſſolve theriac. Lond.* ℥ ij. *M. S. pro fotu p. affecta bis de die, quàm caladiſſime, cxin* Cataplaſma *conficiatur e theriac. Lond. cum Elix proprietatis.*

LASTLY, To put an End to this Section, wherein to prevent prolixity, I have ſtudiouſly avoided all Points of Controverſy; I cannot altogether omit the Mention of thoſe skilful and faithful Surgeons, with due Honour, whoſe Task in this raging Calamity was very hard and dangerous, how they had the Care of all peſtilential Tumours and Ulcers, *&c.* But although ſome of theſe fell themſelves in the

the Diſcharge of their Duty to others, yet the Survivors went on chearfully in their Buſineſs; and they who lived through the whole, owed a great deal to a Conſtancy of Mind, as well as to the conſervatory Power of Providence.

SECTION VIII.

Of Preſervation from a Peſtilence.

IT is manifeſtly much more adviſeable to keep off the Invaſion of a Peſtilence, than to ſtand its violent and fatal Shocks; and Self-Preſervation, as well as the Example of all other wiſe People, admoniſhes us to uſe all poſſible Endeavours to keep it from us, and guard our ſelves againſt it while at a Diſtance. This Part therefore concerning our Preſervation from a Peſtilence, regards both the Duty of the Magiſtrate, and the Care of every Individual: that is to ſay, it is the Magiſtrate's Duty, that when the Nature and peculiar Qualities of this Diſeaſe are known, and reported by Phyſicians, ſuch Laws ſhould be provided, as might beſt conduce to prevent its Spreading, if not to its utter Extirpation.

FIRST of all therefore, they ought to be deemed as a kind of Traitors, who frightned the credulous Populace with the Apprehenſions of an approaching Plague, by idle and groundleſs Reports and Predictions; for the Propagation of the late Sickneſs was too notoriouſly aſſiſted by this Means, to want any Arguments to prove it.

THE timely Separation alſo of the infected from the well, is abſolutely neceſſary to be done; becauſe the moſt ſure Way of ſpreading it, is letting the ſick and well converſe together. Publick Funerals ought to be forbid, as alſo all kinds of Meetings, and frequent Intercourſes of ſeveral Perſons together: An Injunction alſo of Quarentine from infected Places, according to the Cuſtom of Trading Nations, is by any Means not to be omitted, and careleſly to be executed.

ALTHOUGH it is looked upon as almoſt impoſſible, by the moſt artful Contrivances, and the moſt prudent Councils, to avoid the Influence of a common Cauſe; yet the Call of Nature, and the Laws of Self-preſervation, demand our utmoſt Diligence

gence and Labour, both in publick and private, to prevent the Encroachment of ſuch a ſubtile and cruel Deſtroyer. And it was certainly to this purpoſe a wiſe Contrivance of the Magiſtrates, to conſtitute two in every Pariſh daily to viſit every Family, and be ſatisfied whether every one belonging thereunto was well, and free from any Infection.

BUT both the Ancients and Moderns have taken the utmoſt Pains in contriving to purge the Air, on a Suppoſition that, in a peſtilential Contagion, that is *ſubſtantially* infected: But as the Air, as before demonſtrated, is only the Lodgment or Vehicle to the peſtilential *Miaſmata*, which are every Way agitated in it, it does not ſeem ſo much to want Depuration on its own Account, as that poiſonous Mixture which is joined with it. Indeed the peſtilential Particles reſiding in the Poroſities of the Air, may often, without any Change of Figure, for Want of due Agitation, remain and ſtagnate in it a long Time, ſo as to be drawn in by the Lungs in Inſpiration; and hence from the intimate Mixture and Confuſion as it were of both, a Suſpicion may be entertained of the Taint coming from a Cor-

Corruption of Air; but of this we have ſaid enough already; and as howſoever this Matter is, a Purgation of the Air is by common Conſent called for on all Sides in theſe Caſes, we ſhall conſider this Matter, chiefly in theſe two Reſpects.

FIRST, That the peſtilential *Seminium* be diſlodged; and to this Purpoſe contribute brisk Winds, eſpecially from the *North*, and the frequent Exploſions of great Guns, in the Morning and Evening chiefly; becauſe ſuch Concuſſions agitate the poiſonous *Miaſmata*, and not only help to diſſipate them, but to change and alter them in thoſe particular Configurations whereby they become ſo noxious; and it hath been atteſted by Experience, that an intimate Combination of *Nitre* and *Sulphur* greatly alters the ſaline Qualities of the peſtilential Taint.

SECONDLY, The utmoſt Diligence is to be uſed to prevent the peſtilential Particles from taking Effect; which is ſucceſſfully done by proper Fumigations. *Hippocrates*, the Oracle in Phyſick, hath left it to Poſterity, to kindle Fires in the publick Streets; and theſe ſometimes I conceive

ceive may do good; but not, as ſome will have it, by abſorbing the peſtiferous Humidities, but by diffuſing on all Sides a great deal of *Nitre*, which gives a conſiderable Change to the venomous *Miaſmata*; I judge it beſt therefore that ſuch Fires ſhould be made of reſinous Woods, which throw out a clear and unctious Smell, ſuch as *Juniper*, *Fir*, *Oak*, *Aſh*, *Elm*, *Cheſnut*, &c. but by no Means Coals, which exhale an impure, fetid, and ſuffocating Sulphur.

BY the Care of the Magiſtrate alſo the Streets, Sinks, and Canals, ſhould daily be cleared of all Filth; becauſe Stench and Naſtineſs are juſtly reckoned the Entertainers of Infection, and we find the Air to be corrupted frequently from noiſome Smells; ſo that the peſtilential Venom cannot but receive additional Strength from ſuch Means.

BUT to be yet more particular about theſe Fumigations, both to mend the Air and refreſh the Houſes that have been infected, they muſt be compoſed of ſuch Things as raiſe and comfort the Spirits that were languiſhing with their greatful Flavours; for refreſhing Smells are a kind of

of natural *Pabulum* to the animal Spirits; or they ſhould be of ſuch Subſtances as by their gummy Viſcidity entangle and cover the venomous *Spicula*, ſo that they cannot act; or, laſtly, of ſuch Things as breath out ſuch nitrous Steams, which will either preſerve our Bodies from receiving Impurities, or change the Nature of the infectious Particles.

I do not indeed deny, but ſome ungrateſull Smells may be ſometimes more convenient than ſweet ones, as they fix thoſe Spirits which would otherwiſe exhale; and a copious Efflux of ſaline Particles will often keep them from Infection and Injury. But to reduce theſe into Claſſes.

THE *Simples* of the firſt Claſs are, *Muſk*, *Civet*, *Amomum*, *Lavender*, *Roſemary*, *Roſes*, *Angelica*, *Marjoram*, *Cloves*, *Rhodium Wood*, *Aloes Wood*, &c. Of the ſecond, *Frankincenſe*, *Benjamin*, *Storax*, *Bdellium*, *Labdanum*, *Pitch*, *Sagapenum*, *Myrrh*, &c. Of the third Claſs, *Sulphur* and *Nitre*, more of which hereafter.

BUT further, that all the Means of propagating the Plague may be removed, it is very wiſely ordered by the Magiſtracy,

cy, to kill all Dogs, Cats, and other domeſtick Brutes, leſt theſe Creatures in their Paſſage from one Place to another ſhould carry along with them the peſtilential Infection.

YET although both the Makers and Executors of the Laws were very diligent in their Duty during the late Sickneſs, the Contagion notwithſtanding ſpread; when therefore all the Care and Skill of the Magiſtrate could avail nothing in ſtopping the common Deſtroyer, the utmoſt Application was made to preſerve the Individuals under its Viſitation: For which Purpoſe, firſt of all were removed all Means of rendering our Bodies more ſubject to take the Infection, and the beſt Care taken to fortifie the Conſtitution againſt its Attacks, and to ſupport it under its Tyranny.

I know not indeed a greater Neglect than in not keeping the Body clean, and keeping at a Diſtance every Thing ſuperfluous or offenſive; and during the peſtilential Conſtitution, nothing was worſe than Evacuations of all Kinds: But if a *Plethora* required *Phlebotomy*, the Blood ſhould be taken away by a ſmall Orifice, in but

little

little Quantity, and at ſeveral Times: A Perſon loaded with bad Humours, ſhould be diſcharged of them, if poſſible, immediately; if they glut the Stomach, and firſt Paſſages, they ought to be thrown off by Vomiting, Drinking in the Operation good Quantities of Poſſet-Drink, in which hath been boiled the Leaves of *Carduus* and *Scordium*; and alſo the Bowels ſhould be cleanſed, to which Purpoſe the following is uſeful:

Salis Tart. ℈ ij. *F. Solutio in ſpir. vini opt.* ℥ ij. *tum adde guttæ gambi* ℈ iv. *peractâ ſolutione evaporetur ſpir. tum adde colocynth. cum urinâ præp.* ℈ ij. *ſcammaii, Sulphurati* ℈ j. *Aloes, roſatæ* ʒ ij. *trochiſc. de rhabarb. rec.* ℈ iv. *gum ammoniaci in aceto, ſcil. ſoluti* ʒ j. *ſalis abſynthii, cardui ana* ℈ j. *ol. carui gutt.* vij. *cum ſ. q. Syr. de rhamno F. maſſa, inde pilulæ min. formentur, Doſ. ad* ℈ ij. And thus to throw off thoſe Humours which join with and aggravate the peſtilential Venom, very much prevents the Want of Antidotes afterwards.

CARE muſt be taken that there be no Suppreſſion of Urine; the *Non-naturals* muſt be uſed with great Regularity; the Body muſt be kept tranſpirable; the Tone

of the *Viſcera* ſtrengthened; Faſting avoided; Choice made of a good Diet, ſuch as will yield good Nouriſhment, make but little Excrement, and be eaſy of Digeſtion; to which ſeveral Pickles and Sauces are to be recommended; as *Juice of Sorrel, Lemons, Oranges, Pomegranates, Barberries,* &c. and at every Meal Sack is to be allowed, whoſe Vertues we ſhall hereafter have Occaſion to ſpeak of; and Care ſhould be taken not to be Abroad in the Evening.

AND to expreſs all in a few Words, all the animal Fluids muſt be kept in a natural State, in an Equality of Motion, and an equable Degree of Mixture and Fluxility; they muſt not be put at any inordinate Hurries, nor be too much rarified or exalted; nor muſt they be ſuffered to grow vapid and languid, for Want of Depuration, and a Retention of excrementitious Particles. But a proper Regimen is better to be had from other Writers, we therefore haſten to proper Antidotes.

An

An Anti-peſtilential Electuary of Mayerne.

℞ *Juglandium virid.* lib. ij. *ficuum, prunorum ana* lib. j. *macerentur in aceto, & pulpa trajiciatur, cui adde pulv. ſubtiliſſ. rutæ,* lib. ſs. *viperinæ* Virginianæ ʒ j. ſs. *rad. contrayerva* ʒ iij. *petaſitid. zedoariæ, ana* ʒ ij. ſs. *ſacchari perlati* lib. j. *Syr è ſucco Kermes* ʒ j. *Syr. calendulæ, caryophyll. ana q. ſ. ut F. Elect. molle, addendo ſol. Auri* 40. *Doſ. ad quantitatem nucis Jugland. maj. mane, & veſperi.*

An Electuary for the Poor.

℞ *Conſerv. lujulæ, galegæ ana* lib. ſs. *calendulæ* lib. j. *Theriac. Londin.* ʒ iij. *boli armen. vitriol.* ʒ iv. *cum ſyr. limonum q. ſ. conficiatur Elect. Doſ. ad* ʒ ij. *vel* iij.

An Antipeſtilential Confection.

℞ *Radic. ſcorzon. Hiſpan. petaſitid. contrayerva ana* ʒ ij. *helenii, tormentillæ ana* ʒ ſs. *angelicæ, chelidoniæ, mai. ana* ʒ j. ſs. *bacc. Junip. præp.* lib. ſs. *ſummit. rutæ* p. j. *ſem. cardui, citri ana* ʒ ij. *quibus præp. affunde p. duas aceti ſambuc. & tertiam ſpir. vini opt. infuſione peractâ & expreſſione, liquor igne lento evaporetur ferè ad mellaginem: extracti* lib. j. *adde theriac. Londin.* ʒ ij. ſs. *boli arm. terræ*

ſigillatæ ana ℥ j. *flor. ſulphuris* ʒ v. *ſucci Kermes* ℥ ij. *conſerv. lujulæ* lib. j. *cum ſyr. limon. q. ſ. F. Elect. molle, Doſ. ad quantit. nucis myriſticæ mai. ter, vel ſæpius de die.*

Anti-peſtilential Pills.

℞ *Extract. rad. helenii, angelicæ, contrayervæ ana* ℥ j. *adde extract. alb. glycyrrh.* ʒ iij. *flor. ſulph. ad quatuor ſaltèm vices ſublim.* ʒ ij. *C. C. philoſoph. calcin. ſem. citri pulveriz. ana* ʒ j. ſs. *ſalis ſcordii, abſynth. ana* ϑ ij. *cum ſ. q. picis liquidæ F. maſſa pro pilulis, Doſ. ad* ʒ ſs. *vel* ϑ ij. *mane, & horâ ſomni.*

Antipeſtilential Elixir Proprietatis.

℞ *Croci Angl. opt.* ℥ ſs. *extrah. tincturam cum aq. ulmariæ, ſcabioſæ, cardui; vel meliſſæ ſ. q. additis ſpir. ſulphuris aliquot guttis ad leviuſculam aciditatem: liquor per chartam emporeticam agatur, in colaturâ ad lentum B. calorem diſſolve Aloës pellucidæ è veſicâ* ℥ iv. *per ſataccum linteum haùd ita rarum trajiciatur liquor; deinde F. condenſatio ad eundem calorem, acquiſitâ pilularum molliuſcularum conſiſtentia, adde myrrhæ puriſſimæ* ʒ vij. *flor. vel magiſterii præcipit. Benzoin* ʒ iij. *ſalis C. C.* ʒ ij. *cum ſyr. ſambuc. q. ſ. F. maſſa unde pilulæ formentur, Doſ. ad* ϑ ij.

Lozenges

Lozenges againſt the Plague.

℞ *Extract. rad. angelicæ, & contrayervæ* ℥ j. *extr. alb. liquiritiæ* ʒ iij. *flor. ſulphuris myrrhat. h. e. cum myrrhâ ſublim.* ʒ v. *ol. cinnam. gutt.* viij. *ſaccharum cryſtallin. ad duplum omnium pondus, cum mucilag. gum tragacanth. aq. ſcordii parat. q. ſ. F. Tabellæ parvæ ſubling.*

SOME uſed every Morning to ſwallow a Clove or two of *Garlick*; and many eat unripe *Walnuts* pickled. The following Draught was of admirable Service:

℞ *Aq. roſar. rubr. camphoratæ* ℥ ij. *aceti opt.* ℥ j. *in quibus diſſolve bol. arm. opt.* ϑ ij. *adde ſyr. ſcabioſæ ſimpl.* ʒ iij. *M. S. F. hauſtus.*

SOME old Nurſes, as themſelves have informed me, for an Antidote gave human Excrements; but for the Efficacy of this Secret, I have nothing to ſay. Some found Benefit by drinking of Urine; but many who have thought themſelves by theſe Means ſo well fortified, would venture themſelves too inadvertently into Danger, without any neceſſary Occaſion, to the great Hazard of their Lives.

BUT in theſe precautionary Directions, it is to be particularly advertiſed, that Aſtringents of any Kind whatſoever, as *Bole*, *ſealed Earth*, *Lemnian Earth*, *Coral*, &c. are not to be given to Maidens, and Women in their monthly Courſes, for Fear they ſhould occaſion Obſtructions, and other bad Diſorders: Thoſe Remedies alſo are as much to be blamed which force this Evacuation by thinning the Blood too much, and irritating the Uterine Veſſels: And laſtly, in the Preſervation as well as the Cure, the Seaſons of the Year, Sex, Conſtitution, Age, *&c.* are carefully to be attended to.

BUT before I proceed further, Gratitude obliges me to do Juſtice to the Vertues of *Sack*, as it deſervedly is ranked amongſt the principal Antidotes, whether it be drank by it ſelf, or impregnated with *Wormwood*, *Angelica*, &c. for I have never yet met with any Thing ſo agreeable to the Nerves and Spirits in all my Experience. That which is beſt is middle-aged, neat, fine, bright, racy, and of a Walnut Flavour; and it is certainly true, that during the late fatal Times, both the infected and the

the well found vaſt Benefit from it, unleſs they who uſed it too intemperately; many indeed medicated it with various *Alexipharmick Simples.*

IT remains that we now ſay ſomewhat concerning the Uſe of *Tobacco*, whoſe Vertues for this Purpoſe are extreamly cried up by *Diemebrooeck*, and ſome others; but whether we regard the narcotick Quality of this *American* Henbane; or the poiſonous Oil which exhales from it in Smoaking; or that prodigious Diſcharge of Spittle which it occaſions, and which Nature wants for many other important Occaſions; or, laſtly, the Exerciſe it gives to the Lungs in drawing it; beſides the Aptitude of the peſtilential Poiſon to be taken down along with it, and the Irkſomeneſs of its Scent; I muſt confeſs my ſelf at Uncertainties about it; though as to my ſelf, I am its profeſſed Enemy, and was accuſtomed to ſupply its Place as an Antidote with *Sack.*

WE now then come to external Remedies, amongſt which *Amulets*, and Characters, demand the firſt Notice: It muſt indeed be granted, that it is no new Cuſtom or Contrivance to hang theſe Charms, made

various Ways, about many Parts of the Body, but what Vertues theſe Things have, is worth ſome Enquiry.

IT hath obtained with many, that Nature, or the Soul of the World, hath impreſſed upon ſome certain Bodies a very diffuſive magnetick Vertue; whereupon ſome *Adepts* have aſcribed to many of theſe Bodies a Faculty of expelling Poiſons. Others conceit, that both artificial and natural Poiſons do, by a certain Sympathy, when outwardly applied, draw away every Thing that is detrimental to the Conſtitution; after the Manner as *Amber* attracts Straws, and (as they report of the *Snake-ſtone*) imbibe its Venom: Some others again contrive *Amulets* of Spices, to invigorate Nature, and ſupport her againſt the Enemy.

I think it proper to give my Opinion of this Matter; with Submiſſion therefore to theſe great Men, I cannot eaſily come into a Belief of any Advantages to be had from this Practice; for moſt of the Efforts aſcribed to them, is rather from the Power of Imagination, or owing to ſome manifeſt Property. Furthermore, it hath religiouſly obtained amongſt many People, that Diſeaſes

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are to be driven away by painting Characters upon the Body; but it is ſtrongly to be ſuſpected, that this Practice hath been altogether owing to *Jugglers*, and Perſons addicted to infernal Arts; for what medicinal Virtue can there be in a Figure? It ſeems to me, that becauſe the *Sacred Myſteries* of our *Art* were anciently deſcribed by *Hieroglyphicks*, the Populace, who were ignorant of their Significations, miſtook them for Charms againſt a *Plague*, and other grievous Diſeaſes, and they propagated their Deluſion down to Poſterity.

THERE are innumerable Preparations of theſe Charms or *Amulets* to be met with in the Writings of ſeveral Phyſicians; but I ſhall take it to have ſufficiently diſcharged my Duty here, to mention thoſe only which were uſed by our own Country People; the principal of which was a *Walnut* filled with *Mercury*; for it is certain that many did promiſe to themſelves Security from the Dignity of this Metal, which to them ſeemed to be the Parent of all others; others again expected great Matters from its Volatility, notwithſtanding it was thus incloſed, thinking that the natural Heat of the Body would draw ſuch

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Vertues, as would ſecure them from the Infection. But much the greater Number were ſupplied with arſenical *Amulets*, from Empiricks and Mountebanks; theſe were compounded of *Arſenick* alone, with Wax; or had many other Things added thereunto, appropriated to the Diſeaſe. One of the chief Forms of this Kind is the following:

℞ *Dictamni cret. pulv.* ℈ vij. *pulv. ſinapi* ʒ ſs. *Benzoin.* ʒ ij. *Arſenici veri* ʒ iij. *ol. cinnam. gutt.* vij. *ceræ opt.* ʒ v. *cum mucilag. gum. tragacanth. aceto roſac. parat. F. paſta, unde placentæ multiformes depſiticæ parentur, ad pondus* ʒ ij. *vel* iij. *cordis regioni admovendæ, linteo ſerico priùs involutæ.* For it commonly prevailed amongſt the Populace, that *Arſenick*, by ſome magnetick Vertue, draws away all Poiſon, eſpecially that of a Peſtilence. The wearing alſo of a dried Toad was a mighty Secret with ſome.

BUT to give my Thoughts concerning the good or bad Effects of theſe appended Remedies, I do not remember any one who had their Expectations anſwered thereby; but many confiding too much in them, neglected other more neceſſary Means of Pre-

Preſervation, and brought themſelves into great Hazard of their Lives by wearing them; a remarkable Inſtance of which I met with in an elderly Lawyer, who upon wearing an Arſenical *Amulet* upon his Breaſt, had a peſtilential Carbuncle riſe under it, the third Day after which he died. In ſome others large Veſications appeared, not from any Venom drawn out, but from the Cauſtick Quality of the Charm it ſelf, and the Communication of its own Poiſon to the Part: What Madneſs was it, in ſuch a terrible Calamity, to put the Hazard of Life upon ſuch idle and ridiculous Experiments?

BUT to paſs over ſuch Baubles, and proceed to Means that are conformable to Reaſon, and the Rules of Medicine, *Iſſues* are not to be forgot; for by theſe all kinds of Impurities are allowed to flow out along with the peſtilential Poiſon, as through an open and ready Paſſage; and the more of theſe little Ulcers are made, the better, although their Largeneſs may anſwer as well as more in Number; that is, if they are big enough to hold 4, 6 or 8 Peas together. If any one hath a Mind for two Iſſues, let one be made in the left Arm, and the other

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in the oppoſite Leg. And as for the Uſefulneſs of theſe, I can ſpeak it of my own Experience, that whenſoever I was moſt beſet with peſtilential Fumes, in the Courſe of my Buſineſs, I could then immediately perceive a ſhooting Pain in my Iſſue, and had a great deal of an ill conditioned Matter diſcharge from it; and this I always looked upon as a ſure Warning to have timely recourſe to *Alexipharmicks*.

GREAT Service was likewiſe found in the Preſervation againſt the Peſtilence, as well as in its curative Part, by the Application of *Bliſters*, and keeping them open a good while.

HAVING thus come to a Concluſion, I think it not amiſs to recite the Means which I uſed to preſerve my ſelf from the Infection, during the continual Courſe of my Buſineſs among the Sick.

AS ſoon as I roſe in the Morning early, I took the Quantity of a Nutmeg of the *Anti-peſtilential Electuary*; then after the Diſpatch of private Concerns in my Family, I ventured into a large Room, where Crowds of Citizens uſed to be in waiting for me;

and

and there I commonly ſpent two or three Hours, as in an Hoſpital, examining the ſeveral Conditions and Circumſtances of all who came thither; ſome of which had Ulcers yet uncured, and others to be adviſed under the firſt Symptoms of Seizure; all which I endeavoured to diſpatch, with all poſſible Care to their various Exigencies.

AS ſoon as this Crowd could be diſcharged, I judged it not proper to go abroad faſting, and therefore got my Breakfaſt: After which, till Dinner-time, I viſited the Sick at their Houſes; whereupon, entring their Houſes, I immediately had burnt ſome proper Thing upon Coals, and alſo kept in my Mouth ſome Lozenges all the while I was examining them. But they are in a Miſtake who report that Phyſicians uſed, on ſuch Occaſions, very hot Things; as *Myrrh*, *Zedoary*, *Angelica*, *Ginger*, &c. for many, deceived thereby, raiſed Inflammations upon their Tonſils, and greatly endangered their Lungs.

I further took Care not to go into the Rooms of the Sick when I ſweated, or were ſhort-breathed with Walking; and kept my Mind as compoſed as poſſible, being ſufficiently

ently warmed by ſuch, who had grievouſly ſuffered by Uneaſineſs in that Reſpect. After ſome Hours Viſiting in this Manner, I returned Home. Before Dinner, I always drank a Glaſs of *Sack*, to warm the Stomach, refreſh the Spirits, and diſſipate any beginning Lodgment of the Infection. I choſe Meats for my Table that yielded an eaſie and generous Nouriſhment, roaſted before boiled, and Pickles not only ſuitable to the Meats, but the Nature of the Diſtemper; (and indeed in this melancholy Time, the City greatly abounded with Variety of all good Things of that Nature) I ſeldom likewiſe roſe from Dinner without drinking more Wine. After this, I had always many Perſons came for Advice; and as ſoon as I could diſpatch them, I again viſited till Eight or Nine at Night, and then concluded the Evening at Home, by drinking to Cheerfulneſs of my old favourite Liquor, which encouraged Sleep, and an eaſie Breathing through the Pores all Night. But if in the Day-time I found the leaſt Approaches of the Infection upon me, as by Giddineſs, Loathing at Stomach, and Faintneſs, I immediately had Recourſe to a Glaſs of this Wine, which eaſily drove theſe beginning Diſorders away by Tranſpira ion.

YET

YET in the whole Courſe of the Infection, I found my ſelf Ill but twice; but was ſoon again cleared of its Approaches by theſe Means, and the Help of ſuch Antidotes as I kept always by me.

BUT to conclude, it may not be improper to take Notice, that the Citizens much accuſtomed themſelves to certain Compoſitions for keeping off the Infection, by continual Smelling to them; the chief amongſt which was the following.

℞ *Pulv. rad. angelicæ, ſummit. roriſm. & lavendulæ cum floribus ana* ʒ ij. *caryophyll.* ʒ iiij. *labdani puriſſ. Styracis ana* ʒ iij. *omnibus prep. in commixtione adde ol. nucis moſch. per expreſſ.* ʒ j. ſs. *ol. ligni rhod.* ϑ ij. *camphoræ* ʒ ſs. *moſchi* gr. viij. *cum cera opt. p. ſ. F. maſſa.* Some likewiſe would ſmell to *Galbanum*, *Oil of Wormwood*, or *Rue*, as alſo the Oil or Spirit drawn from *Pitch*, and dropped upon Cotton, to be kept in a cloſe Ivory Box. Yet I could not ſo much approve of theſe Things, as they were uſed; becauſe they ſo much dilated the Pores of the olfactory Organs, as to give more Liberty for the peſtilential *Miaſmata* to paſs in along with them.

THE

THE Purification of Houſes was contrived to be done ſeveral Ways; but what I moſt approved of, was in placing a Chafing-diſh in the Middle of a Room, or the Entries, or Windows, where proper Things were burnt, and exhaled all round. Quick-lime was likewiſe thrown into the following Decoction.

℞ *Fol. Scordii, Angelicæ ana* M. iij. *ſummit. lauri, rutæ, lavendulæ ana* M j. ſs. *flor. roſar. pallid. ſambuci ana* p. ij. *calami aromat.* ʒ v. *Caryophyll. Contuſ.* ʒ iij. *F. decoctio in duabus p. aq. font. & tertiâ aceti roſac. vel Sambuc. conſimiliter ac lagenæ, a mucore, & ſitu calcis extinctione mundantur, ita ut liquorum inditum amplius vitient, & corrumpant.* For as ſoon as the Lime is thrown in, it raiſes a very penetrating Steam, which ſeemed very likely to deſtroy the Efficacy of the peſtilential *Miaſmata.* For the ſame Purpoſe likewiſe were the following very judiciouſly contrived.

12 AP 58

℞ *Salis petræ* lib. ℔j. *Sulphuris* ℥ iij. *benzoin. Styracis ſimul liquati. ana q. ſ. ut formentur ſ. a. Trochiſc. deb. exiccandi.*

F I N I S.

A Table of the Funerals

IN THE

Several Parishes within the Bills of Mortality of the City of *LONDON*,

For the Year 1665.

	No. of Funerals	Plag.
T. Albans Woodstreet	200	121
St. Alhallows Barkin	514	330
t. Alhallows Breadstreet	35	16
t. Alhallows the Great	455	426
t. Alhallows Honey-lane	10	5
t. Alhallows the Less	239	175
t. Alhallows Lombardstreet	90	62
t. Alhallows Staining	185	112
t. Alhallows the Wall	500	356
t. Alphage	271	115
t. Andrew Hubbard	71	25
t. Andrew Undershaft	274	189
t. Andrew Wardrobe	476	308
t. Anne Aldersgate	282	197
t. Anne Black-Friers	652	467
t. Antholins	58	35
t. Austins	43	20
t. Bartholomew Exchange	73	51
t. Bennet Finch	47	22
t. Bennet Grace-church	57	41
t. Bennet Pauls Wharf	355	172
t. Bennet Sherehog	11	1
t. Botolph Billinsgate	83	50
hrist Church	653	467
t. Christophers	60	47
St. Clements Eastcheap	38	20
St. Dionys Back-church	78	27
St. Dunstans in the East	265	150
St. Edmunds Lombardstreet	70	36
St. Ethelborough	195	106
St. Faiths	104	70
St. Fosters	144	105
St. Gabriel Fenchurch	69	35
St. George Botolph-lane	41	27
St. Gregories by Pauls	376	232
St. Helens	108	75
St. James Dukes-place	262	190
St. James Garlickhith	189	118
St. John Baptist Walbrook	138	83
St. John Evangelist	9	
St. John Zachary	85	54
St. Katherine Coleman-street	299	213
St. Katherine Cree-church	335	201
St. Lawrence Jewry	94	48
St. Lawrence Pountney	214	140
St. Leonard Eastcheap	42	27
St. Leonard Foster-lane	335	255
St. Magnus	103	30
St. Margaret Lothbury	100	66
St. Margaret Moses	38	25
St. Margaret New Fishstreet	114	66
St. Margaret Pattons	49	24
Sr. Mary Abchurch	99	54
St. Mary Aldermanbury	181	109
St. Mary Aldermary	105	75
St. Mary-le-Bow	64	36
St. Mary Bothaw	55	30
St. Mary Colechurch	17	6
St. Mary Hill	94	64
St. Mary Mounthaw	56	37
St. Mary Somerset	342	262
St. Mary Stainings	47	27
St. Mary Woolchurch	65	33
St. Mary Woolnoth	75	38
St. Martins Ironmonger-lane	21	11
St. Martins Ludgate	196	128
St. Martins Orgars	110	71
St. Martins Outwich	60	34
St. Martins Vintrey	417	349
St. Matthew Friday-street	24	6
St. Maudlins Milk-street	44	22
St. Maudlins Old Fish-street	176	121
St. Michael Bassishaw	253	164
St. Michael Cornhil	104	52
St. Michael Crooked-lane	179	133
St. Michael Queenhith	203	122
St. Michael Quern	44	18
St. Michael Royal	152	116
St. Michael Woodstreet	122	62
St. Mildred Bread-street	59	26
St. Mildred Poultrey	68	45
St. Nicholas Acons	46	28
St. Nicholas Coleabby	125	91
St. Nicholas Olaves	90	62
St. Olaves Hart-street	237	160
St. Olaves Jewry	54	32
St. Olaves Silver-street	250	132
St. Pancras Soper-lane	30	15
St. Peters Cheap	61	35
St. Peters Cornhil	136	76
St. Peters Pauls Wharf	114	86
St. Peters Poor	79	47
St. Stephens Coleman-street	560	391
St. Stephens Walbrook	34	17
St. Swithins	93	56
St. Thomas Apostle	163	110
Trinity Parish	115	79

In the 97 *Parishes within the Walls, Total of the Funerals* 15207; *Died of the Plague* 9887.

St. Andrew Holborn	3958	3103
St. Bartholomew the Great	493	344
St. Bartholomew the Less	193	139
St. Bridget	2111	1427
Bridewel Precinct	230	179
St. Botolph Aldersgate	997	755
St. Botolph Aldgate	4926	4051
St. Botolph Bishopsgate	3464	2500
St. Dunstans in the West	958	665
St. George Southwark	1613	1260
St. Giles Cripplegate	8069	4838
St. Olaves Southwark	4793	2785
St. Saviours Southwark	4235	3446
St. Sepulchres	4509	2746
St. Thomas Southwark	475	371
Trinity Minories	168	123
At the Pesthouse	159	156

In the 16 *Parishes without the Walls, Total of the Funerals* 41351; *Died of the Plague* 28888.

St. Giles in the Fields	4457	3216
Hackney Parish	232	132
St. James Clerkenwel	1863	1377
St. Katherines Tower	956	601
Lambeth Parish	798	537
St. Leonards Shoreditch	2669	1949
St. Magdalens Bermondsey	1943	1363
St. Mary Newington.	1272	1004
St. Mary Islington	696	593
St. Mary Whitechappel	4766	3855
Rotherhith Parish	304	210
Stepney Parish	8598	6553

In the 12 *Parishes in the outer Parts, Total of the Funerals* 28554; *Died of the Plague* 21420.

St. Clements Danes	1969	1319
St. Paul Covent Garden	408	261
St. Martins in the Fields	4804	2883
St. Mary Savoy	303	198
St. Margarets Westminster	4710	3742
Whereof at the Pesthouse		156

In the 5 *Parishes of the City and Liberties of* Westminster, *Total of the Funerals* 12194; *Died of the Plague* 8403.

Total of the Funerals --- 97306.

Died of the Plague ---- 68596.

Besides many, of which no Account we given by the Parish-Clerks, and who were privately Buried.

AN ESSAY ON THE Different Cauſes OF *Peſtilential Diſeaſes,*

And how they become Contagious.

WITH

REMARKS

Upon the INFECTION now in

FRANCE.

By JOHN QUINCY, M. D.

The Third Edition, with large Additions.

LONDON:

Printed for *E. Bell*, at the *Croſs-Keys* and *Bible* in *Cornhill*; and *J. Oſborn*, at the *Oxford-Arms* in *Lombard-ſtreet*, 1721.

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THE PREFACE.

THE *Subſtance of the following Pages has been partly extracted from Papers wrote ſome Years ago with another view; and partly put together ſince our preſent apprehenſions of a* Peſtilence *from abroad: The Enumeration of ſo many Cauſes of a* Peſtilence, *or like Changes, as have no immediate Relation to the preſent Caſe, may to ſome perhaps ſeem Superfluous; but my deſign hereby hath been only the better to inculcate a right underſtanding of a* Contagion, *which is the laſt Conſequence, and higheſt degree of Aggravation, they are capable of riſing to; and gradually to lead Perſons, not well accuſtomed to ſuch Matters, from the more obvious, to the more ſecret means of bringing ſuch terrible Changes into our Conſtitutions.*

What relates to ſuch precautionary Means for our Security, againſt the Infection now abroad, as concerns the Magiſtrate, I have preſumed to ſay but very little to; becauſe that has been under the direction of much abler Judges; yet what I have ventured to ſuggeſt concerning a Regulation in the Bills of Mortality, I cannot forbear being ſo partial to, as to wiſh it may be duly conſidered, by Perſons of more Compaſs and Penetration in ſuch matters; and it has been much my concern not to have had an opportunity of Communicating it in a more private manner to Perſons, whoſe Authority might have given it greater weight; becauſe, beſides the advantages immediately propoſed to be anſwered from it under our preſent apprehenſions, I cannot but conceive it to be applicable to a great many other uſeful Ends, as every curious and inquiſitive Perſon may eaſily apprehend.

Becauſe the Antidotes and Medicines communicated by Dr. Hodges, *are for the moſt part obſolete, I have ventured to add ſome* Formulæ *more ſuitable to the modern Practice,*

and

and more eaſy to be procured from the preſent Stock of officinal Compoſitions: But all theſe I ſubmit to be complied with, or altered, as different Exigencies may require, or as better Judges may think fit.

I find that ſome general Directions on this Subject are liable to miſconſtructions, eſpecially by ſuch who are willing to underſtand things in a wrong Senſe; by which means Diſputes are raiſed about the uſe of Alexipharmicks, Fumigations, Fires, *and other general Topics, which have little other Foundation, than a wilful miſapprehenſion; for it cannot be imagined, that theſe are either* good *or* bad *in all Circumſtances; but that they require the Conduct and Direction of able Judges, as particular Occaſions or Symptoms demand or forbid them.*

But of all the Excurſions and Particularities, in which ſome are fond of indulging themſelves, I cannot think any ſo extravagant and blameable, as Hypotheſes, and drawing Conſequences of Practice from ſuppoſititious Principles: The Theory of Medicine abhors any ſuch

deluſory

delusory Foundations, and requires the severity of Demonstration from Facts, and the known Properties of Matter; and more especially does the Necessities we are now under of Arming against the most powerful Enemy, call for Assistances of a more certain Nature; yet either from the wantonnesses of a light Imagination, and a false Philosophy; or from a Vanity to be taken Notice of, the Publick has upon this sad Occasion been amused with the Figments and Conceits of Naturalists, who from the Casualties and Distemperatures incident to Plants, and other inanimate Productions of Nature, have drawn Conclusions to support very wild Conjectures concerning a like Procedure in the Diseases peculiar to Mankind.

THE

OF THE Different Cauſes OF *Peſtilential Diſeaſes*, &c.

THERE is hardly any one Subject more largely treated of by Phyſical Writers, than that of *Peſtilential Diſeaſes*; and the Reaſon of it I take to be, the Frequency in all Ages and Countries, of Alarms from ſuch dreadful Deſtroyers; and the uncommon Impreſſions they are apt to make upon the Minds of thoſe, whoſe Profeſſion naturally leads them to enquire into their Cauſes. But in this it has fared as with all the other Branches of that noble Science. The Conjectures and

Opinions of Perſons have at all Times been too much influenced by the Philoſophical *Hypotheſes* in Vogue, inſomuch that it is almoſt an endleſs as well as an unprofitable Task, to examine into them all: And as ſuch an Enquiry is not conſiſtent with the intended Brevity of theſe Pages, I ſhall paſs them by, only juſt taking Notice of the moſt conſiderable Opinions, under which, moſt that has been advanced to any Purpoſe may be reduced.

ALL Authors upon this Subject, may be reduced under theſe two Sorts: Such as aſcribe them to the immediate Wrath of Heaven, and account them as Puniſhments inflicted by the immediate Exertion of a Supernatural Power; and ſuch as aſſign for their Origin ſome natural Cauſe.

ALTHOUGH too great a Regard cannot be had to the Author of our Beings, yet Care ſhould likewiſe be taken, not to aſcribe every Calamity to the immediate Exertion of the Almighty Power; for it ſeems much more worthy of the Divine Being ſo to order it, that from the Courſe of ſecond or natural Cauſes, Puniſhments ſhall purſue Offenders, than to imagine the frequent Exertion of his Power in a Way

ſuper-

ſupernatural to inflict ſuch Puniſhments. But there is a great deal of Reaſon to ſuſpect, that the Number of this Sect was very much increaſed by ſuch, as either out of Ignorance in other Cauſes, or out of an affected Devotion, thought it their Intereſt to come into this Opinion, and pretend to do greater Cures by certain religious Performances, and their Interceſſion with Heaven, than was in the Power of Medicine, of which they knew but very little.

OF thoſe that aſſign ſome natural Cauſe, there are ſeveral Opinions: Some aſcribe them to aſtral Influences, to malign Conjunctions and Radiations of the Heavenly Bodies. We find, from the moſt remote Antiquity, not only *Peſtilential Diſeaſes*, but likewiſe a great many others, aſcribed to the ſame Cauſes: But all the Reaſonings about this Conjecture have been very obſcure and perplexed until the preſent Age, when Sir *Iſaac Newton* firſt taught Men to think juſtly, and talk intelligibly about the Motions and Influences of thoſe remote Bodies upon our *Atmoſphere*: And upon his Theory Dr. *Mead* has ſince further proceeded to determine their Efficacies upon humane

Bodies. By which, as it does appear that they affect us no otherwiſe than as they occaſion the ſeveral Variations of the Seaſons, and different Conſtitutions of the Air, the Reader muſt be left to the Conſideration of ſuch Cauſes.

ANOTHER Cauſe is charged upon Steams and Exhalations from putrefying Bodies. There are Abundance of Inſtances to ſupport this Opinion, that manifeſtly diſcover very fatal Effects from ſuch Cauſes. As Battels are generally fought in Summer-Time, when by the Heat of the Seaſon Things are moſt diſpoſed to Putrefaction, ſo it has often been obſerved, that the Plague has appeared after great Slaughters of Men in Fight, as appears by undoubted Teſtimony from *Julius Alexandrinus* (a), *Diodorus Siculus*, and a great many others, too tedious to mention. *Ambroſe Parey* (b) gives a Relation of a Plague, that laid waſte almoſt a whole Country, which had its Riſe from the Stench of a great many human Carcaſes that were thrown into one Pit, and left Rotting uncover'd. *Joannes Wolfius* (c), *Foreſtus*

(a) De Bello Punico.
(b) Lib. 10. Cap. 3.
(c) Tom. 1. memorab. Cent. 16.

Foreſtus (d), the abovementioned *Parey* (e) and *Agricola* (f), all take Notice of Plagues ariſing from the Stench of putrefying Fiſh that were thrown dead upon the Shores.

OTHER Steams of the ſame Efficacy frequently ariſe from the Putrefactions of ſtagnant Waters, and other Bodies, which, in ſome particular Conſtitutions of Air, are apt to corrupt, and emit very offenſive Effluvia. Dr. *Mead* (g) relates from *Diogenes Laertius* (h), that *Empedocles* obſerved a peſtilential Diſeaſe to afflict the *Selinuntii*, from the Putrefaction of a certain River; to remedy which, he contrived to have the Streams of two other neighbouring Rivers drained into it, which, by their Increaſe of the Current, with an additional Weight and Preſſure of Water, brought the former to its uſual Sweetneſs, and ſo put a Stop to the Plague.

TO this Purpoſe Dr. *Plot* (i) obſerves, the Reaſons why *Oxford* is now much more

(d) In his *Scholium* upon Obſ. 9. Lib. 6.
(e) De Peſte, Lib. 6.
(f) De Peſte, Lib. 1.
(g) Præf. de Imperio Solis ac Lunæ, &c.
(h) Lib. 8. Segon. 70.
(i) Nat. Hiſt. of *Oxfordſhire*, Chap. 2.

healthful than heretofore, to be the Enlargement of the City, whereby the Inhabitants, who are not proportionably increaſed, and not ſo cloſe crowded together; and the Care of the Magiſtrates in keeping the Streets clear from Filth: For formerly (he ſays) they uſed to kill all Manner of Cattle within the Walls, and ſuffer their Dung and Offals to lie in the Streets. Moreover, about thoſe Times the *Iſis* and *Cherwell*, thro' the Careleſneſs of the Townſmen, being filled with Mud, and the Common-Shores by ſuch Means ſtopped, did cauſe the Aſcent of Malignant Vapours whenever there happened to be a Flood. But ſince that, by the Care and at the Charge of *Richard Fox*, Biſhop of *Wincheſter*, in the Year 1517, thoſe Rivers were cleanſed, and more Trenches cut for the Waters free Paſſage, the Town has continued in a very healthful Condition; and in a particular Manner ſo free from Peſtilential Diſeaſes, that the Sickneſs in 1665, which raged in moſt Parts of the Kingdom, never viſited any Perſon there, although the Terms were there kept, and the Court and both Houſes of Parliament did there reſide.

TO

TO this Cauſe, 'tis very probable, is owing the Frequency of the Plague at *Grand Cairo* in *Egypt*, and in the Iſland of *Sardinia*, as *Pauſanias* and others relate: Although indeed *Proſper Alpinus* (*a*) charges a great deal of the Cauſe of that at *Cairo*, upon their continual Commerce with ſuch Nations as are ſeldom without ſuch infectious Diſeaſes. And for this Reaſon it is, that we find all thoſe Countries, which moſt abound with Swamps and Standing Waters, to be moſt unhealthful, eſpecially in the hotteſt Seaſons; except, as in ſeveral Parts of *Italy*, ſuch Lakes have any Communication with the Sea, or ſome large Rivers. To this Purpoſe *Piſo* (*b*) frequently obſerves thoſe Places to be moſt ſubject to ſuch Calamities, where there are conſtant Heat and ſettled Calms, as ſuch a Temperament of Air moſt diſpoſes Bodies to Putrefaction and Corruption, as in St. *Thomas Iſland*, and *Guinea*: And, on the contrary, that notwithſtanding the Intenſeneſs of Heat, if the Fluids are but agitated by Winds, Tides, and Currents, there is little Danger of ſuch Diſeaſes; and the leſs ſtill, the more regular and conſtant the Seaſons are.

upon

(*a*) De Medicina *Egypt.* Lib 1. Cap. 15.
(*b*) Hiſt. *India* and *Braſil.*

upon other Accounts: By which Means it is, that between the *Tropicks*, and even under the *Equator*, it is very healthful.

UNDER this Head it may not be improper to obſerve, that too ſcanty and mean a Diet, and Feeding upon unripened and unſound Fruits, are frequently charged with a Share in Miſchiefs of this kind. *Joſephus* (*a*) and *Julius Caſar* (*b*) amongſt Hiſtorians; *Foreſtus* (*c*), and ſeveral other phyſical Writers, give Accounts of Plagues from the like Cauſes. *Galen* (*d*) is very poſitive in this Matter; and in one Place (*e*) accuſes his great Maſter *Hippocrates* with neglecting too much the Conſequence of a bad Diet, and aſcribing ſome Miſchiefs ariſing from thence to a bad Air. And upon this is grounded the common Opinion of a *Plague*'s following a *Famine*; in which Circumſtances, the poorer ſort, who feed meaneſt, generally ſuffer moſt, as it frequently happens in long Sieges, and Armies ill ſupplied with Proviſions. Thus Tra-

(*a*) De Bello *Judaico*, Lib. 7. Cap. 26.
(*b*) De Bello *Civili*, Lib. 2.
(*c*) Lib. 6. Obſer. 9, and 26.
(*d*) Lib. 1. de differ. Feb. Cap. 3. & de cibis mali & boni ſucci.
(*e*) Comment. in lib. de natalium, text. 4.

Travellers report, that Surat in the *East-Indies* is seldom or never free from a Plague, which is ascribed to the mean Diet of the Natives, who are *Banians*, and feed on little else than Herbs, Water, Rice, and such like pitiful Fare; for it is observed, that the *Europeans* who trade there, are in no Danger of being infected, because they feed well on Flesh, and drink Wine, which secures them against those malignant Diseases.

A Third Cause is ascribed to Mineral Eruptions and subterraneous Exhalations. *Pestilences* from this Cause are more infrequent than from several others, because such Eruptions hardly ever happen but upon Earthquakes, or Breaking into the Bowels of the Earth by Mines, Pits, Wells, and the like; and then too, in Order to produce a *Pestilence*, it is necessary that whatsoever exhales and mixes with the ambient Air, must be of such a Nature, as to render it unrespirable, or to communicate by its subtil Particles to the Animal Juices as will pervert their natural Crasis, and disturb their due Secretions; which does not often happen, for there are frequent Shocks of the Earth from intestine Fermentations, which are not followed by any such Mischiefs, as they

they happen only from the Struggle of ſuch Principles, as when they have got Vent, neither of themſelves, or by any Thing emitted with them, are of that diſagreeable Nature, as to give any Diſturbance to the Animal OEconomy.

CAROLUS de la Font, (a) indeed, as well as ſeveral others, lays great Streſs upon Cauſes of this kind, and charges *Peſtilential Diſeaſes* chiefly to Mineral Exhalations of divers kinds; as *Arſenical*, *Mercurial*, *Sulphureous*, &c. which he imagines the ambient Air often to be overcharged with, either from the Heat of the Sun, Earthquakes, or ſubterraneous Fires. To all this, Perſons of different Opinion object, the Infrequency of Plagues in *Calabria*, *Naples*, and ſeveral Parts of *Sicily*, where there are manifeſtly very great ſubterraneous Fires, ſuch as occaſion violent Earthquakes, and many furious and plentiful Eruptions of metallick and mineral Fumes. A very diſtinct Relation of which, from his own Knowledge, may be met with from Dr. *Bernard Connor*, (b) who has been very curious in his Enquiries hereinto.

BUT

(a) Differt. de Peſte.
(b) De montis Veſuvii Incendio.

BUT however Authors differ upon this Head, ſeveral very odd Relations are to be met with in Hiſtory of malignant and deadly Sickneſſes from theſe Cauſes. That Story is very ſtrange which is related by *Ammianus Marcellinus*, (a) and taken Notice of by *Cardan* and *Riolanus*, that a moſt grievous Peſtilence broke out in *Seleucia*, which, from thence to *Parthia*, *Greece*, and *Italy*, ſpread it ſelf thro' a great part of the World, from the Opening an ancient Vault in the Temple of *Apollo*; and that it raged with ſo much Fury, as to ſweep away a third part of the Inhabitants of thoſe Countries it viſited.

IT is needleſs to trouble the Reader with many Relations of the ſudden and ſtrange Effects of ſome Steams ariſing from Mines and Pits, which are generally termed by our Colliers *Damps*, becauſe almoſt every Body has already been acquainted with ſuch Accounts.

DR. *Plot* (b) tells us, That about Twenty Years ſince, two Perſons were employed to dig a Well in the Pariſh of *North-Leigh* in *Oxford-*

(a) Hiſt. 73.
(b) Nat. Hiſt. of *Oxfordſhire*, Chap. 3. Part 31.

Oxfordshire, but upon being taken ill, left off the Work: Whereupon it was undertaken by two others of *Woodstock*; who, before they could do any thing considerable in it, sunk down, and died irrecoverably in the Well. Which being perceived by a Miller hard by, and he coming to their Assistance, fell down dead upon them. Another also venturing to do the same, with a Rope tied about him, fell from the Ladder just in the same Manner; and though presently drawn up by the People above, yet he was scarcely recover'd in an Hour or more. And since then, upon a Bucket's falling into a Well in another Part of the Town, a Woman perswaded a strong lusty Man to go down a Ladder to fetch it, who, by that Time he had got half way down, fell from the Ladder into the Well; upon which, the Woman called another of her Neighbours to his Assistance, who, much about the same Place, met with the same Fate, without giving the least Sign of Change; so fatal (says the Doctor) are the Damps of that Place. Dr. *Boot* (*a*) tells a Story that happened at *Dublin* in *Ireland*, just of the same Nature. And in

(*a*) Nat. Hist. Cap. 18. Sect. 4.

in the *Philoſophical Tranſactions* (a), there are the like Relations of Damps in the Coal-Mines belonging to the Lord *Sinclair* in *Scotland*.

THE moſt ſurprizing Effect of theſe ſubterraneous *Effluvia* that I ever met with, is in a Relation of Dr. *Bernard Connor*, of certain Perſons in *Paris* digging deep in a Vault or Cellar, who were ſo ſuddenly transfixed by ſome ſubtile Vapour, that when a Servant-Maid came down to ſpeak with them, ſhe found them in Poſtures as if at Work, one with his Pick-Ax advanced, another with his Shovel full of Earth, half lifted up, and a Woman ſitting by with her Arm upon her Knee, her Head leaning upon that Hand, with manifeſt Expectations in her Countenance of what they were in Search after.

THE ſame Author, from his own Knowledge, gives a very exact Account of a *Grotta* in *Italy*, much talked of, and commonly called *la Grotta de cani*, by this Author, *Crypta Canum*. But Dr. *Mead* hath ſince,

(a) No. 3.

ſince, from his own Knowledge alſo, given a very particular and rational Account of this Place, and the Manner of its killing; to whom therefore the Reader may turn for further Satisfaction.

ANOTHER, and more general Cauſe than any hitherto mentioned of theſe Maladies, is ſome bad and unwholſome Conſtitution of Air. Such Conſtitutions may ariſe from ſeveral Cauſes, which although they affect us in different Manners, yet as they are equally fatal, we call them all *Malignant* or *Peſtilential*. In Order therefore to underſtand the better how we are differently affected by thoſe different Conſtitutions, it will be proper to conſider them ſomewhat diſtinctly, under theſe general Heads, *viz. A dry hot Air, hot and moiſt, cold and moiſt, and cold and dry*; to which moſt Variations of Air may be reduced.

THAT from the ſeveral Conſtitutions of Air, our Bodies are differently affected; and that moſt Diſeaſes are in ſome Meaſure more or leſs influenced thereby, is quite out of Diſpute. *Hippocrates*, in a great many Places, declares himſelf of this Mind: His whole third Section of *Aphoriſms* is a Proof

of

of it; and in ſeveral Places (*a*) he diſcovers his Opinion, that *Peſtilential Diſeaſes* have their Riſe from hence. *Galen*, his beſt Interpreter, underſtood his θεῖον, which ſome will have to be meant of ſomewhat Divine, or the immediate Hand of God, to be nothing elſe but a particular Conſtitution of Air ariſing from natural Cauſes; and that he was of the ſame Mind himſelf, is very plain from his own Writings (*b*).

IT is almoſt endleſs, as well as altogether needleſs, to cite all the Authorities for this Opinion, that might be collected from the moſt remote Antiquity down to the preſent Age. We ſhall therefore proceed to conſider the different Conſtitutions of Air, according to the foremention'd Diſtinction; premiſing only, that the Terms *Hot*, *Cold*, &c. are uſed in a twofold Senſe, the one is *Abſolute*, and the other *Relative*; by the former, *viz. Abſolute Heat*, *Cold*, &c. is underſtood one ſimple Property of the Air only, as it is different not in Degree, but in Quality from others: By the latter, that is *Relative Heat*, &c. is meant certain Degrees of thoſe

(*a*) *Vid.* Epidem, *and* de Aere, Aquis & Locis.
(*b*) *Vid.* Comment. in Epidem. *Hippocratis.*

Properties: As the ſame Air may at the ſame Time be ſaid properly to be both Hot and Cold, or Dry and Moiſt, as it is compared with another Air, either Hotter or Colder, Dryer or Moiſter; for with Regard to a hotter Air, it will be termed cold: when at the ſame Time if it be compared to a colder Air, it would be accounted hot: And ſo of the reſt. To which Diſtinction, it is very neceſſary to have conſtant Regard, to avoid Confuſion.

THOSE Countries where the Air is hot and dry for the greateſt Part, are related to be healthful, and free from *Peſtilential Diſeaſes*, except where there are great Swamps and ſtagnant Waters, or by any accidental Cauſes Bodies are expoſed there to Putrefaction, the Steams of which render Perſons Diſeaſed. In ſuch Countries, for the moſt Part of the Year, there is but very little Rain, and the Nights are comparatively colder than elſewhere, from the great Dews which then fall. As *Piſo* (*a*) informs us, that the colder the Nights are in *Braſil*, and the more plentifully the Dews fall,

(*a*) Hiſt. *Ind.* & *Braſil.*

fall, the Inhabitants account it moſt agreeable to their Soil, and conducive to Vegetation; and Phyſicians reckon it much the moſt healthful for the Inhabitants.

THE Heat of the Air alone, where it is conſtant and uniform, does not appear to render Perſons born in it, or long accuſtomed to it, any more unhealthful, than that which is more temperate. *Ariſtotle* * indeed ſays, a hot and dry *Southerly* Wind will bring a *Peſtilence*; but of ſuch we have very few Inſtances, eſpecially on this Part of the Globe. There is in *Livy* (*a*) an Account of a *Plague* at *Rome*, from a great Drought; and *Nicephorus* (*b*) relates ſuch another: But theſe generally come from ſome other manifeſt Cauſes beſides Heat, and in Places not accuſtomed to a dry Air.

BUT a hot and moiſt Air is very different. By *Moiſt*, is meant what ariſes from ſudden or long Rains. This is the Conſtitution of Air that moſt Authors charge with being the greateſt Inſtrument in *Pe-*

* Probl. 1.
(*a*) Lib. 1. Decad. 4.
(*b*) Lib. 15. Cap. 10.

ſtilential Diſtempers. Hippocrates (c) aſcribes a great deal to ſuch an Air, and relates a *Peſtilence* that had its Riſe from great Heat, joined with *Southerly* Winds and much Rain. *Galen* is of the ſame Mind, as appears from ſeveral of his Writings (d), with many others, too tedious to mention. The Truth of this is likewiſe manifeſt from the Hiſtories of thoſe Countries, where there are long ſettled Heats, and afterwards much Rain, as in ſeveral Parts of the *Eaſt-Indies*, which are known at ſuch Times to be moſt grievouſly afflicted with Fevers and Diſeaſes of a very malignant Kind. The ſame we are informed of from ſome Places in *Africa* (e), *viz.* That if Showers fall ſoon upon the ſultry Heats of *July* and *Auguſt*, peſtilential Diſtempers certainly enſue. It may be generally obſerved here too in our own Climate, that the moſt unhealthful Times are after warm Rains, and the more if the Air is then agitated but little with Winds.

FROM

(c) Epidem. Lib. 2 & 3. de Aere Aquis & Locis. Aph. 11. Sect. 3.

(d) Comment. in Epidem. Lib. 3. de differ. Febr. Cap. 4. de Temperam. Lib. 1. Cap. 4.

(e) Vid. *Purchas* Pilgr. Lib. 6. C. 1. as alſo *Joan. Leo* Hiſt. *Afric.* Lib. 1. Cap. 1.

FROM a cold and moiſt Air, we have little complained of, as to their occaſioning theſe Diſeaſes, unleſs ſuch a Conſtitution ſets in immediately upon a contrary Extream; for all ſudden Changes of Weather are more or leſs unhealthful, as well as in other Reſpects of living; for which Reaſon particularly, *Corn. Celſus* adviſes to be very ſlow in all Alterations of Moment: And *Sanctorius* frequently inculcates the ſame in his *Aphoriſms*, and tells us (*a*) how it is hurtful, both to go ſuddenly out of a hot Air into a cold one, and out of a cold Air into a hot one; and is alſo very particular (*b*) in the Inconveniencies of ſuch a Conſtitution of Air we are now ſpeaking of, ſetting in after the Heat of Summer. *Hippocrates* (*c*) does tell us of a *Peſtilence* from long continued cold Rains, as likewiſe does *Fernelius* (*d*), but ſuch Inſtances are not common.

THE laſt Conſtitution of Air we are to take Notice of, is that which is cold and dry, againſt which there are a great

(*a*) Medicina Statica, Sect. 2. Aph. 18.
(*b*) Ibid. Aph. 6, and 29.
(*c*) Lib. 3. Epidem.
(*d*) De Abdit. Lib. 2. Cap. 12.

many very heavy Complaints. *Galen* writes of a moſt Raging Peſtilence about *Aquileia* in *Italy*, that began in the very Middle of Winter, and had its manifeſt Cauſe in extream Cold. *Fernelius* (*a*) aſſerts the Riſe of ſeveral Peſtilences from the ſame Cauſes; As alſo does *Morellus* (*b*) obſerve great Malignities to proceed from ſome *Northerly* cold Winds. *Titus Livy* (*c*) likewiſe mentions a *Peſtilential Conſtitution* ariſing from intenſe Cold; but *Phyſical Hiſtories* abound with ſuch Relations.

OF the ſtrange and ſudden Effects of intenſe Cold and dry Winds we have very ſurprizing Accounts from thoſe who have travelled into Countries where they are the moſt frequent. Dr. *Bernard Connor* (*d*) beforementioned, relates, That when he was in *Poland*, it was aſſerted to him by very creditable Teſtimonies, that it frequently happens in *Lithuania*, and ſome of the *Northern* Tracts of *Muſcovy* and *Tartary*; that it ſometimes, through the Neglect of the Shepherds, their ſmall Cattle, as *Sheep*, *Goats*, and the like,

(*a*) Ibid.
(*b*) De Febr. purp. Cap. 2.
(*c*) Lib. 5. decad.
(*d*) De Antris Lethiferis, Art. 2.

like, be left expoſed in the Night-time to the *Northerly Winds*, they are frequently found next Morning perfectly ſtiff and dead, in the ſame Poſture as they are wont to be in at their Stalls and Cribs: And there are divers Accounts of Perſons in thoſe Countries, who have been ſo ſuddenly transfixed, ſtiffned, and killed by thoſe *Blaſts*, as to have continued on Horſeback in the ſame Poſture as when Living, till the Horſe, acquainted with the Road, has brought them to their Journey's End: And the abovementioned Phyſician (*a*) tells us, that when he was at *Bruſſels*, he was informed by a *Spaniſh* Captain, that of a Party of Horſe that was ſent out for Booty in a very cold Seaſon, one by Accident loſt the reſt of the Body; and Riding about ſome time, before he could find his Way, or any Refreſhment, he was ſo transfixed with the Cold as to be quite killed, but continued on Horſeback in the Poſture of a Live Perſon, until his Horſe at laſt happened to find the Way back to his Quarters, whither his Company had before got, and miſſing him, feared he had fallen into the Enemies Hands; but when they

(*a*) Loco cit.

came to congratulate him upon his ſafe Return, they went ſo near as to ſpeak to him, and take hold of him, before they perceived him to be dead.

TO *Blaſts* of this kind it undoubtedly is, that Fruit Trees and Plants do ſo frequently ſuffer, eſpecially after a warm early Spring, after the vegetable Juices have began to riſe and ſhoot into Buds and Leaves. Inſtances of this Nature we frequently find in our own Country; and I have had Opportunity to obſerve, more than once, that upon ſuch *Blaſts*, the Trees have, on that Side towards the Wind, been in one Night's Time quite changed in the Colour of the Leaves; and ſome, of the moſt tender ſort, almoſt ſtripped bare, their Leaves falling off dry, as in *Autumn*.

BUT there is ſomething yet further, beſides particular Conſtitutions of Air, that is taken Notice of by Phyſicians, as a general Cauſe of Maladies of this kind; and that is what is commonly called *Contagion*, or *Infection*; by this Term *Contagion*, is underſtood a Diſeaſe ariſing from the Contact of ſuch Bodies or Particles as have in them a Power of Altering the due Craſis of a healthful Perſon,

Perſon, and inducing ſtill one common Diſeaſe; theſe Particles are generally called by Phyſical Writers *miaſmata*, *Contagioſa*, or *Contagij Semina*; and the Difference of Peſtilences ariſing from theſe Cauſes ſeems much to differ from what have been hitherto taken Notice of, as the former cannot be ſhunned but by quite leaving the diſeaſed Climate, or by ſuch a Strength, or Turn of Conſtitution, as reſiſts, or yields not to the general Diſorder; whereas in this laſt Caſe, a Perſon ſeems to be equally ſafe in any Air that is not impregnated with theſe contagious *Effluvia*, and the greateſt Danger ariſes from the Nearneſs to diſeaſed Perſons, or whatſoever elſe is capable of harbouring thoſe miſchievous and ſecret Meſſengers, as the Poet (*a*) takes Notice.

Quo proprior quiſq; eſt, ſervitq; fidelius ægro
Is partem Lethi citius venit.

THE Hiſtories of Phyſick abound with Relations of Peſtilences from no other Cauſe than what ariſes from the Importation of the Diſeaſe, if it may be ſo termed, from diſtant

(*a*) Ovid. Metam. lib. 7.

diſtant Countries; and ſometimes not by Perſons themſelves diſtempered, but by the Conveyance of theſe *Peſtilential Miaſmas* in their Cloaths or Wares imported in the Way of Trade. *Fracaſtorius*, (*a*) an eminent *Italian* Phyſician, tells us, That in the Year Fifteen Hundred and Eleven, when the *Germans* were in Poſſeſſion of *Verona*, there aroſe a deadly Diſeaſe amongſt the Soldiers from the Wearing only a Coat purchaſed for a ſmall Value; for it was obſerved, that every Owner of it ſoon ſickened and died; until, at laſt, the Cauſe was ſo manifeſtly from ſome Infection in the Coat, that it was ordered to be burned. Ten Thouſand Perſons, he ſays, were computed to fall by this Plague before it ceaſed.

FROM the ſame Cauſe, that is, infected Garments and Merchandize, *Mercurialis* takes Notice of a Plague in his Time at *Venice*; and *Appianus Alexandrinus* (*b*) aſſures us, that the *Celtæ*, after a Conqueſt over the *Illyrici*, and in Poſſeſſion of their Plunder, were infected with a grievous Plague, which the *Illyrici* then laboured under. *Thycidides* alſo,

(*a*) De morbis contag. lib. 2, cap. 7.
(*b*) De Bello Illyrico.

alſo, in his Relation of the Plague at *Athens*, intimates, That it was brought from ſome Part of *Ethiopia* by the like Means. And *Proſper Alpinus* (*a*), before mentioned, ſeems to lay the greateſt Streſs for the Frequency of the Plague at *Grand Cairo*, to the Traffick with thoſe Countries as are hardly ever free from *Peſtilential Diſeaſes*. A great many Phyſicians have charged the Plague in Sixteen hundred and ſixty three at *Amſterdam*, to the Infection of ſome *Peſtilential Miaſmas* which were tranſported from *Smyrna* and *Algiers*, then much infected with ſuch Diſeaſes, with ſome Merchandize; by which Means likewiſe it was conjectured ſoon afterwards to reach *London*, and ſeveral other Parts of *England*, as it appears from the Account of Dr. *Hodges* (*b*). To this Purpoſe I remember to have read a ſtrange Story, ſomewhere in *Baker*'s Chronicle, of a great Rot amongſt Sheep, which was not quite rooted out until about Fourteen Years Time, that was brought into *England* by a Sheep bought for its uncommon Largeneſs, in a Country then infected with the ſame Diſtemper: And upon this Account it is that the Prudence of

(*a*) De Medic. *Egypt.*
(*b*) De Peſte.

of thoſe Nations and States are to be juſtified, who enjoin all Perſons and Merchandize from infected Countries, to ſtay a certain Time upon their Coaſts and Borders, before they are ſuffered to intermix with a healthful People; having by ſuch Inſtances as here mentioned been juſtly alarmed at the Incroachment of ſuch dreadful Deſtroyers.

THESE Hiſtorical Fragments are put together, in Order to apprize thoſe Readers who have not been very converſant with Things of this Kind, with the various Ways by which the moſt dangerous Diſeaſes, and even ſudden Death, may be introduced into our Conſtitutions, by the Agency of very minute and unheeded Cauſes; and likewiſe the better to ſupport the Diſtinction neceſſary to be made between *Epidemic* Diſeaſes, and a *Contagion*; as well as to illuſtrate the Manner whereby the latter ſubſiſts, ſpreads, and proves fatal, when the Cauſes producing the former are abſent.

Epidemick Diſeaſes of all Kinds and Degrees of Exacerbation, have their Riſe from ſome common Cauſe, that affects all within its Extent more or leſs, in Proportion to the particular Fitneſs of different Conſtitutions

to

to be influenced by it: And by the *Bellinian* Doctrine we are taught, how all thoſe Changes are made in the Blood, when thrown into a Fever, even from the moſt ſimple *Ephemera*, to the moſt complicated and malignant Caſes whatſoever; to which therefore the Reader muſt be referred, for a clear Underſtanding of ſuch Matters; it being ſufficient to our Purpoſe here to obſerve, that he demonſtrates all Fevers to be attended with ſome Fault in the Blood's Motion, Quantity, or Quality, or in ſome or all of them together; and that its chief Fault in Quality, (which is moſt to the preſent Caſe) conſiſts in an unequable Fluidity, ſome Parts of it being rendered thinner, and others thicker at the ſame Time, than in a natural State; not unlike what happens to all coagulated Liquors.

FROM this Condition of Blood, this great and wonderful Man goes on to ſhew, through the whole Courſe of his Propoſitions, that the coagulated Part, which he commonly diſtinguiſhes by the Name of *Lentor*, does accumulate in the capillary Veſſels until their Endeavours of Reſtitution, as in all Elaſtick Bodies, are greater than

than the protruding Force, when by the Arteries Re-action upon it, the *Lentor* is ſhook, diſlodged, and waſhed away into the Veins, an ordinary Courſe of Circulation, there continuing its Progreſs till it is either fitted for ſome Secretion and Evacuation, or again lodged in the Capillaries, to bring on a new Paroxyſm.

THIS unequable Fluxility of the Blood ariſes from two general Cauſes, either from ſuch Means as diminiſh its Motion, or from the Mixture of ſuch Particles, as cannot only of themſelves be reduced by the digeſtive Powers into homogeneous Diſpoſitions therewith; or as have a Faculty to put in Fuſion ſome Parts of the Maſs, and leave the other thicker than before; theſe are particularly enumerated, and their Ways of Operation diſtinctly demonſtrated by *Bellini*.

CONFORMABLE to this Change in the Blood, which is the common Promptuary of all the other animal Fluids, every Thing ſeparated from it hath ſome correſpondent Affections; and the nervous Fluid in particular, which is ſeparated from a Maſs ſo unequally fluid, cannot but in it

ſelf

ſelf have ſome Parts too fine, and others too groſs, beſides the Inequalities in the Times and Quantities of its Separation; from all which the ſame Author accounts for thoſe Affections, termed nervous, which are the *Concomitants* of Fevers: And in the Proſecution hereof he frequently takes Occaſion to ſpeak of this Fluid to be thin, ſharp, hot, fiery, dry, *&c.* as the ſaline and rigid Parts in its Compoſition are by the Diſtemper more or leſs ſubtilized, or more or leſs defrauded of its humid Parts by Exhalation.

FURTHERMORE, in this great Diſorder of the Conſtitution, and inordinate Hurry and Colluctation of the Fluids, ſometimes the Solids are maintained in their Contractions and Motions, until the Particles, either introduced from Abroad, or generated in the Body, which cannot be aſſimulated into homogeneous Qualities, are thrown out of the Courſe of Circulation by the natural Diſcharges, by Tranſpiration, or by Abceſces; and the animal Fluids reſtored to their natural State. But when Matters are brought to this paſs, it happens that the very Means of ſaving one Perſon, may prove the Deſtruction of many others;

others; becauſe what is thus critically thrown off by one, hath a Faculty of exciting the like Diſorders in the Fluids of another, when it is inſinuated into them; as a very ſmall Quantity of ſome fermenting Subſtances will communicate its Efficacies a very great Way, and put very great Parcels of Fluid into the like Agitation. And this is the Way by which a malignant Fever comes to be infectious, and a *Peſtilence* changes into a *Contagion*; as *Bellini* more largely explains it in his XXVIIIth *Propoſition* of Fevers; from the whole of which it is manifeſt, as Dr. *Mead* hath expreſſed it in his fifth *Eſſay of Poiſons*, that *the Effects of the* one *are the Cauſe and Beginning of the* other.

TO bring then this nearer to the Matter under Examination, the Plague in 1665, and deſcribed by Dr. *Hodges*, was ſtrictly and properly a *Contagion*; and by all Accounts of the beſt Authority, That which hath made ſuch vaſt Devaſtations in ſome Parts of *France*, and now continues to rage amongſt them, to the great Terror of their Neighbours, is alſo of the ſame Kind; and was brought to them in Merchandize, and by a Ship's Crew, who were ſick of a peſti-

lential

lential Diſeaſe all their Voyage Home from ſome Parts of *Turky*; in neither of theſe there being any Manner of Fault chargeable upon the Air, or to any other Cauſes before enumerated in producing a *Peſtilence*.

THE beſt Account of that Contagion now Abroad, we have from Three Phyſicians of Eminence, who were ſent by the Duke Regent of *France* to *Marſeilles*, both to give proper Directions in that Exigency, and report their Opinions for the Information of others: The Infected they divide into Five Claſſes, ſuitable to the different Aggravation of their Symptoms, and the different Methods they thereby require in their Cure.

THE Firſt Claſs, obſerved eſpecially in the firſt Period, and in the greateſt Fury of the Diſtemper, contains ſuch as were afflicted with the Symptoms that were conſtantly followed by a ſpeedy Death. Theſe were for the moſt Part irregular Shiverings, the Pulſe low, ſoft, ſlow, quick, unequal, concentrated; a Heavineſs in the Head ſo conſiderable, that the ſick Perſon could ſcarce ſupport it, appearing to be ſeized with a Stupidity and Confuſion, like that of a drunken Perſon; the Sight fixed, dull, wan-

dering, expreſſing Fearfulneſs and Deſpair; the Voice ſlow, interrupted, complaining; the Tongue almoſt always white, towards the End dry, reddiſh, black, rough; the Face pale, Lead-coloured, languiſhing, cadaverous; a frequent Sickneſs at the Stomach; mortal Inquietudes; a general Sinking and Faintneſs; Diſtraction of the Mind; Doſing, an Inclination to vomit, Vomiting, *&c.* The Perſons thus ſeized, periſhed commonly in the Space of ſome Hours, of a Night, of a Day, or of two or three at fartheſt, as by Faintneſs or Extinction; ſometimes, but more rarely, in convulſive Motions, and a Sort of Trembling; no Eruption, Tumbur or Spot appearing without.

IT is eaſy to judge by theſe Accidents, that the Sick of this kind were not in a Condition to bear Bleeding; and even ſuch, on whom it was tried, died a little while after. *Emetick* and *Cathartick* were equally here uſeleſs, and often hurtful, in exhauſting the Patient's Strength, by their fatal overworking. The *Cordials* and *Sudorifick* were the only Remedies to which they had recourſe, which nevertheleſs were of no Service, or at the moſt prolonged the laſt Moments but for a few Hours.

THE

THE Second Claſs of the Diſeaſed that they attended, during the Courſe of this fatal Sickneſs, contains ſuch as at firſt had the Shiverings, as the preceding, and the ſame ſort of Stupidity, and heavy Pain in the Head; but the Shiverings were followed by a Pulſe quick, open, and bold, which nevertheleſs was loſt upon preſſing the Artery ever ſo little. Theſe Sick felt inwardly a burning Heat, whilſt the Heat without was moderate and temperate; the Thirſt was great and inextinguiſhable; the Tongue white, or of an obſcure red; the Voice haſty, ſtammering, impetuous; the Eyes reddiſh, fixed, ſparkling; the Colour of the Face was of a red ſufficiently freſh, and ſometimes inclining to livid; the Sickneſs at the Stomach was frequent, though much leſs than in thoſe of the preceding Claſs; the Reſpiration was frequent, laborious, or great and rare, without Coughing or Pain; Loathings; Vomitings, bilious, greeniſh, blackiſh, bloody; the Courſes of the Belly of the ſame Sort, but without any Tenſion or Pain; Ravings, or phrenetick *Deliria*; the Urine frequently natural, ſometimes troubled, blackiſh, whitiſh, or bloody; the Sweat ſeldom ſmelt badly, and was ſo

far from giving Eaſe to the Sick, that it always wearied them; in certain Caſes Hemorrhages, which, however moderate, proved always fatal, a great Decay in the Strength, and, above all, an Apprehenſion ſo ſtrong of dying, that theſe poor Creatures were incapable of any Comfort, and looked on themſelves, from the firſt Moment of their being attacked, as deſtined to certain Death. But that which deſerves to be well obſerved, and which has always ſeemed to characterize and diſtinguiſh this Diſeaſe from all others, is, that almoſt all had at the Beginning, or in the Progreſs of this Diſtemper, very painful Buboes, ſituated commonly below the Groin, ſometimes in the Groin or Arm-pits, or in the Parotide, Maxillar, or jugular Glands; as likewiſe Carbuncles, eſpecially on the Arms, Legs or Thighs, ſmall, white, livid, black Puſtles, diſperſed over all the Surface of the Body.

IT was very rare to ſee any of the diſeaſed of this Second Claſs eſcape, though they ſupported themſelves a little longer than thoſe of the preceding; they periſhed almoſt all with the Marks of a gangren'd Inflammation, eſpecially in the Brain and Thorax; and that which was moſt ſingular was, that

the ſtronger, fatter, fuller, and more vigorous they were, the leſs they had to hope.

AS to the Remedies, they bore Bleeding no better than thoſe of the Firſt Claſs; at leaſt if they were not blooded at the very firſt Inſtant of their being taken Sick, it was evidently hurtful to them: they grew pale, and fell even in the Time of their firſt Bleeding, or a little while after, into ſuch Faintings, as could not in moſt of them be imputed to any Fear, Repugnance, or Diſtruſt, ſince they demanded with Earneſtneſs to have a Vein opened.

ALL *Emeticks*, excepting *Ipecacuanha*, were very often more hurtful than uſeful, cauſing ſuch fatal Irritations and Exceſſes in operating, as could neither be moderated or ſtopped. The *Cathartick*s that were a little ſtrong and active, were attended with the ſame Inconveniencies. Such as they preſcribed in the Form of a laxative Ptiſan, as well as plentiful Draughts, that were diluting, nitrous, cooling, and gently alexiterial, gave ſome Relief, but did not hinder the Return of the Symptoms. All *Cordial*s and *Sudorifick*s, if they were not ſoft, gentle and benign, did nothing but promote the

Progreſs of the inward Inflammations. In ſhort, if any one eſcaped, which was very rare, he ſeem'd to owe his Cure to the external Eruptions, when they were very much raiſed, either ſolely by the Force of Nature, or by the Aſſiſtance of Remedies, as well internal as external, that determined the Blood to diſcharge on the Surface of the Body, the noxious Ferment wherewith it was infected.

THE Third Claſs contains the two preceding; for during the Courſe of the Sickneſs, a great Number of Perſons were attacked ſucceſſively with the different Symptoms enumerated in the two former Claſſes, in ſuch a manner, that the moſt Part of the Signs deſcribed in the Second, were commonly the Forerunners of thoſe which were mentioned in the Firſt, and the appearing of theſe latter Symptoms denounced an approaching Death. In theſe Sorts of Caſes they varied their Method according to the Diverſity of Indications, or of the moſt urgent Symptoms; ſo that without being obliged to enter into farther Particulars, a Judgment may be formed of the Event of the Malady, and of the

Succeſs of the Remedies, from what was before obſerved on the Subject of the diſeaſed of the two preceding Claſſes.

THE Fourth Claſs contains the Diſeaſed attacked with the ſame Symptoms with thoſe of the Second, but theſe Sorts of Accidents leſſened or diſappeared the ſecond or third Day of themſelves, or in Conſequence of the Effects of the internal Remedies, and at the ſame time in Proportion to the remarkable Eruption of the Buboes and Carbuncles in which the noxious Ferment that was diſperſed through the whole Maſs, ſeemed to be collected together; ſo that the Tumours riſing from Day to Day, at length being open, and coming to a Suppuration, the Infected eſcaped the Danger that threatned them, provided they had ſome Aſſiſtance.

THE Fifth and Laſt Claſs contains all ſuch infected Perſons, as without perceiving any Emotion, or there appearing any Trouble or Hurt of their natural Function, have Buboes and Carbuncles, which riſe by little and little, and eaſily turn to Suppuration, becoming ſometimes ſchirrous, or which is

more rare, diſſipate inſenſibly, without leaving any bad Effect behind them; ſo that without any Loſs of Strength, and without changing their manner of Living, theſe infected Perſons went about the Streets and publick Places, only uſing themſelves a ſimple Plaſter, or asking of the Phyſicians and Surgeons ſuch Remedies as are neceſſary to theſe Sort of ſuppurating or ſchirrous Tumours.

AND thus we have a ſuccinct View of the Sickneſs now in *France*, which is a *Peſtilence* from *Contagion*: Becauſe then there is ſuch a vaſt Difference between a *Peſtilence* ariſing from aſſignable Cauſes in the Air, *&c.* and a *Peſtilence* from a *Contagion*, as to the preſervative Means eſpecially againſt them; and that what we are now in moſt Apprehenſion of, is of the latter Kind; it moſt concerns us to be well acquainted with the Manner of Infection, as far as we can reaſon about Agents ſo extreamly minute and ſubtle. How all other *Antecedents* to a *Peſtilence* exert themſelves in their Influences over the animal OEconomy, *Bellini* has brought even to a Demonſtration; tho' indeed as to a Contagion, he is ſo very ſhort, that we may venture to inſert it here, as introductory to the following Remarks.

AS

'As this Coagulation and Fuſion may go 'on ſo far as to ſet at Liberty, and perſpire 'through the Surface of the Body, or with 'the Breath in Reſpiration, many noxious 'Particles, which may be ſo ſubtil and a-'ctive, as to enter the cutaneous Pores of 'other Perſons, or mix with that Air which 'they draw in Reſpiration, and when got 'into the Body, be able to make the ſame 'Change in the Blood, both as to its Coa-'gulation and Fuſion; hence it comes that 'ſuch a Fever proves *contagious*, which is 'an inſeparable Requiſite to a *peſtilential* 'Fever.

'But this is not only thus brought about, 'but alſo the diſſolved and diſperſed Par-'ticles may longer adhere to ſome inani-'mate Bodies than others, as to Woollen 'and Linen Cloaths, Papers, *&c.* and theſe 'Particles may, by the Steam of a living 'Body, or by the Means of any other Heat, 'be put into Motion, ſo as to breath out of 'thoſe Lodgments, where they quietly re-'ſided, and obtain ſo much Liberty, and 'Action on all ſides, as will carry them into 'the cutaneous Pores of any Perſons within 'their Reach, and infect them; and on this 'Account a *Peſtilence* may be brought from

'very

'very diſtant Countries, lying a long Time 'in ſuch Manner concealed, and then ſudden-'ly breaking out; with many other Cir-'cumſtances of like Nature.

'BUT if theſe ſubtile and active Parti-'cles be of that Nature, that they can pe-'netrate the Pores of other Animals, and 'occaſion a like Coagulation of their Blood, 'not only Men, but Brutes alſo, will be 'ſeized with a *Peſtilence*; but this does not 'always very neceſſarily happen; becauſe 'the Blood of Animals is different from hu-'mane Blood, ſo that although theſe Par-'ticles are ſuppoſed to get into it, it does 'not therefore neceſſarily follow that they 'muſt vitiate it, any more than will *Aqua 'Regia* diſſolve all kinds of Metals; but 'yet Brutes of all kinds, or ſome of them 'only, will be ſeized equally with Men, 'when this ſubtile and active Ferment, 'which penetrates the Surface, is of that 'Nature, as will taint the Blood of other 'Animals with thoſe *peſtilential* Requiſites.

'AS this kind of Contagion then can 'eaſily proceed from an infected Perſon 'at a great Diſtance, as often as the noxi-'ous Particles can reach another Perſon,

'and

'and give that Degree of Coagulation and 'Fuſion, as is neceſſary to a *Peſtilence*; the 'more aggravated then will be this Calami-'ty, and more eaſily ſpread, when a health-'ful Perſon is near to one already infected; 'and yet much more worſe, if it is in Con-'tact with thoſe Parts, which more plen-'tifully, and with a greater *Impetus*, breath 'out infected Steams, as if the Air ariſing 'from the Mouth and Lungs, which muſt 'be extreamly hot, or the Perſpiration of a 'Carbuncle when it is greatly inflamed; 'for in this Caſe the exhaling Particles 'will be in their greateſt Activity when 'neareſt the recipient Body, and likewiſe 'more denſe, that is, more numerous, and 'conſequently of greateſt Efficacy.

'BUT it is not every one that is ſeized 'with a *Peſtilence* from Contagion, by Means 'of Steams exhaling from any particular 'Parts of the Body; but only when theſe 'Steams, and the Air it ſelf, hath joined 'with, and interſperſed through it Par-'ticles of vitiated Faculties; and then 'this Kind of Fever will eaſily be communi-'cated, and neceſſarily enſue, not only on 'Account of what gets into the Body with 'the inſpired Air, but becauſe alſo the whole

'Body

Body is ſurrounded with ſuch an Infection, wherein the noxious Particles floating about on all Sides, will endeavour to penetrate through the Pores upon the Surface, and get that Way into the Blood; for although the Skin is thicker upon the Surface of the Body, than that Pellicle covering the Veſſels in the Lungs, and for that Reaſon it requires longer Time for ſuch Particles to get that Way into the Blood, and the Habit of the Body, yet it is no Argument that they cannot get that Way at all, and be admitted into the Juices.

BY this we are able to gather, that when a Fever from ſome Faults in the *Nonnaturals*, comes to the higheſt Degree of Malignity, it makes ſuch a Change in the animal Fluids, as renders ſome Parts of them poiſonous and capable of exciting the like fermentative Motions, whereſoever they come into a proper Subject, without any of thoſe procateractic Cauſes as gave Riſe to the Fever of the firſt Perſon ſeized.

OF what Nature then this Poiſon is, we may conjecture from the Circumſtances of its Production. All animal Bodies do more or leſs generate a Salt; or rather, in Pro-

portion

portion to the Strength of their digeſtive Powers, do they more or leſs ſubtilize the ſaline Particles which are taken in with their neceſſary Nourishment. This is abundantly manifeſt in the Diſtillation of many animal Subſtances, which plentifully yield a volatile Salt. But indeed in the Compoſition of this, in a natural and healthful State, there is joined a very ſubtilized Sulphur or Oil; which contempers and ſoftens it into a Fitneſs for the Purpoſes of the OEconomy: And under this Modification, it becomes the Principle of Vitality, and the chief Inſtrument of animal Action; not unlike what this is conceived to be, is the common *Sal volatile oleoſum*, or any other Spirits drawn from odorous Bodies.

IT matters not what Names Perſons pleaſe to diſtinguiſh this by, in an humane Body; but that ſomewhat of this Kind is naturally the Produce of its digeſtive Powers, in the higheſt Degree of Comminution or Subtilization they are capable of bringing any Thing to, no one will queſtion; and that thoſe minute Threads or Fibres, of which the whole is a Compoſition, are animated by it; or, to ſpeak more ſtrictly, owe to it their Elaſticity and motive Faculties.

IT

IT is hoped, that no one who hath been accuſtomed to Reaſonings of this Nature, will find any Difficulty in conceiving ſuch a Difference of Principles, ſo finely blended together, as here ſuggeſted, of a ſaline, and an oleous, or humid Subſtance: And whoſoever reads *Bellini*, or any others who have wrote in the ſame Manner, will find continual Regard had to thoſe two Principles, even in the animal Spirits; for without it there can be no Notion had of what is ſo frequently mentioned, and which by their Effects we find muſt be true of them, that they are too dry, hot, active, fiery, and the like; or too humid, vapid, ſluggiſh, viſcid, *&c.* And it is further equally manifeſt, that in Proportion to the greater or leſſer Degrees of Motion in thoſe Fluids, from whence this ſubtile Compoſition is generated, and the Concuſſions of thoſe fine Threads into which it is ſeparated, will it err in one or other of the foregoing Extremes.

IN a Fever therefore, where the animal Fluids are in the higheſt Degree of Agitation, and from Cauſes too of a coagulating Nature, it ought to be no Wonder that even

this

this ſubtile Union ſhould be in ſome Meaſure diſſolved, and the ſofter and more humid Parts broke and exhaled, ſo much as to leave the more rigid and ſaline ones not only unfit to lubricate thoſe Elaſtick Threads, wherein they reſide, but ſharp and pointed enough to ſtimulate, contract, and harden them into all Loſs of Motion.

AS the Deſtruction likewiſe of this *Nexus* in ſo ſubtile a Fluid leaves the ſaline Parts capable of injuring even that OEconomy which gave it Exiſtence, ſo may its Volatility favour its Eſcape in a great Meaſure by Tranſpiration, ſo as to affect alſo other Perſons within its Reach; and Theſe, with all other Particles of like Nature, which by an Over-Agitation, and fermentative Motion of the animal Fluids, are ſeparated from the ſofter and lubricating Compoſitions with which they were naturally joined, and which by their Volatility tranſpire and float in the Air, we take to be the true *contagious Miaſmata*, that convey, propagate, and continue a *Peſtilence*, after the Cauſe firſt raiſing it ceaſes.

NOR will this ſeem ſtrange to any who are accuſtomed to reflect, how may Subſtances

ſtances are changeable into a poiſonous Nature, which before were not only inoffenſive, but uſeful to the Purpoſes of Life. Some Minerals, whoſe ſaline Parts in their Production are naturally blended with good Quantities of Sulphur, are harmleſs, and uſeful *Alterants*; but when by any Means thoſe Principles are ſeparated, the ſaline Parts become ſtrong *Emeticks* and *Cathartick*s, even to the Degree of a Poiſon. Who does not know that *Antimony* may be taken crude in large Quantities without any manifeſt Effect, but that the Chymiſt can take ſomewhat from it, that in few Grains ſhall operate beyond the Power of a ſtrong Conſtitution to bear?

THOSE Arrows of Death therefore that make ſuch dreadful Slaughter in a *Contagion*, are the animal Salts of infected Perſons, let looſe from their natural Combinations, and ſubtilized into the higheſt Degree of Volatility, by the Agitation and fermentative Motion of a Fever. And the Buboes, Carbuncles, *&c.* in a *Peſtilence*, are nothing elſe but Collections of Particles, or Coaleſcences, formed in ſuch irregular Motions, and thrown out of the Courſe of Circulation by thoſe neceſſary Laws whereby

every

every Thing is rejected, that cannot be aſſimilated into homogeneous and like Properties: The Matter of which Excretions is likewiſe of ſo ſubtile and fermenting a Nature, that if introduced into the Fluids of another well Perſon, it excites there the ſame Motion and Diſorder.

THIS Change of animal Subſtances into a Poiſon, is too common a Truth to want any Atteſtation to thoſe who have been but indifferently converſant in Natural Enquiries. And it is greatly to our Purpoſe, that even thoſe Creatures, which are generally deemed poiſonous, do require certain Degrees of Heat, and animal Action, to exalt their Juices to ſo high a Degree of Volatility, as to put on the Properties of a Poiſon, and act as ſuch upon other living Creatures; inſomuch that it is not only a common Obſervation that theſe Animals loſe their poiſonous Nature when remov'd into Climes colder than what is natural to them, but that alſo they are not ſo venomous in their own Climates, at the cooler Seaſons of the Year, as in the moſt ſultry.

BUT the Caſe of a mad Dog entirely comes up to that of a *Contagion* from a Fever.

This Animal, in the hotter Seaſons of the Year, is ſubject to be thrown into a Fever; which Fever, for Want of ſuch free Vent through the Pores of the Skin as in a Man, critically diſcharges a great deal of morbid Matter by the Glands about the Mouth, Lungs, and Parts leading thereunto: And it is very well known, that this Matter is of ſuch a poiſonous Nature, that where by a Bite or a Wound otherwiſe made, it is infuſed into the Juices of other Creatures, it will excite in them the ſame kind of Diſtemper. But the Dog, before this Fever, had nothing of a poiſonous Nature in him, and therefore the Venom generated by the Fever muſt be from ſuch an Alteration made upon the animal Juices, as changes them from a ſmooth, ſoft, and inoffenſive, into a fiery, dry, ſtimulating Nature. So that there is nothing more happens in this Caſe to the Dog, than to a Man in the higheſt Degree of a malignant Fever. The ſame Cauſe in both generates a Poiſon where there was none before, only one is more naturally vented by the Glands about the Mouth, and the other by the whole Surface.

THIS

THIS Theory likewiſe might be further illuſtrated by many Inſtances from inanimated Fluids, which are capable of being put into Fermentation by a very ſmall Portion of Matter, and which ſhall by ſuch an Agitation from new Particles, or *Moleculæ* having Properties of communicating the ſame Effects to another quieſcent Fluid; not much unlike what we ſee in the Communication and Propagation of Fire, which is excited and carried on in proper Subjects from the minuteſt Beginnings, and increaſing alſo in its own Force as it ſpreads.

WHEN a Perſon therefore falls into a Fever from any epidemic, or other more private Cauſe, and that Fever riſes to ſuch a Degree of Malignity as is always ſuppoſed in a *Peſtilence*, as far as any *Effluvia* do exhale from that Perſon, ſo far he may be ſaid to have round him a contagious and poiſonous *Atmoſphere*; becauſe there tranſpires from him ſuch Particles as will excite in other Animals of like Conſtitution, the ſame fermentative Motions as thoſe to which they owe their own Origin.

ALTHOUGH therefore, in the Beginning of epidemical Diſeaſes, and during the

Subſiſtence of their common Cauſes, particular Regard is to be had to theſe Cauſes, and the Manner whereby they affect the People; yet when it is come to this paſs, that the Fever it ſelf is productive of a Poiſon, or ſomewhat intirely diſagreeable, that communicates the ſame Impreſſions upon others, without any Concurrence of the firſt Cauſe, then ſuch a Fever is truly a Peſtilence by Contagion, and all precautionary Regards ought peculiarly to be ſuited, to prevent its Infection or Spreading; either by keeping the well Subjects clear from the Sick, or deſtroying the Influence of the poiſonous Exhalations, or fortifying the ſound againſt it. But to theſe Ends, it is neceſſary to have ſome tolerable Notion of the Manner how theſe ſecret Deſtroyers are continued, and conveyed to great Diſtances.

THE moſt common Manner of conveying and ſpreading a Contagion, obſervable in the preceding hiſtorical Collections, and which alſo is the Caſe of our preſent Apprehenſions from Abroad, is by infected Perſons and Merchandize; it being atteſted by too many Facts to admit of the leaſt Doubt, that even Packs and Bails of Goods carry the poiſonous *Miaſmata* about with them;

and

and from the Nature that we here ſuppoſe this Poiſon to be of, nothing is more likely to preſerve it than animal Subſtances, as Hair, Wool, Leather, Skins, *&c.* becauſe the very Manner of its Production, and the Nature of its Origin, ſeems to give it a greater Affinity with ſuch Subſtances than any other, and to diſpoſe it to reſt therein until by Warmth, Ventilation, or any other Means of Diſlodgement, it is put into Motion, and raiſed again into the ambient Air.

TO know how theſe *Effluvia* come to have ſuch fatal Influences over Mankind, and to underſtand their Progreſſion from the firſt Seizure, to the End of that Diſtemper they gave Birth to, requires too many *Precognita* from the Mechaniſm of the animal OEconomy, and the Agency of ſuch minute Inſtruments, to be particular about, in the Compaſs here limited. The Reader therefore muſt be ſatisfied with thoſe ſhort Hints here given, unleſs for more particular Information he pleaſes to turn to *Bellini* of *Fevers*, and Dr. *Mead* of *Poiſons*, where he will find how the Blood, and all the Secretions therefrom, are affected and changed by ſuch Cauſes.

WE ſhall here therefore only ſuggeſt ſome Thoughts concerning the Suddenneſs of their

Seizure, and their Energy of Operation. And this will not be difficult to conceive by thoſe who are acquainted with that univerſal Property of Matter, whereby it is more or leſs determined to draw, and unite again, when ſeparated into Parcels, according to the greater or leſſer Affinities of their Figures, Solidities, and Quantities of Motion. As nothing therefore in Nature is ſuppoſed to bear a greater Similitude, than in this Caſe the natural animal Salts do with what hath been ſubtilized and ſet on Float in the Air, it can be no Wonder that when the Ambient is ſated with the latter, they readily join with the former, as ſoon as they are received into the Body. And this is ſupported by the Authority even of *Bellini*, who allows, in the Beginning of his XXVIIIth *Propoſition*, that the *Antecedents* to a peſtilential Fever do ſometimes vitiate the Spirits immediately in Quality.

AS the ordinary Courſe therefore of producing Fevers is by diſordering the Blood firſt in Quality, with ſuch Mixtures as coagulate it, that is, as make it unequally fluid, ſome Parts being thinner, and others thicker than natural; ſo by theſe extreamly ſubtle *Effluvia*, in a *Contagion*, the Spirits are deſtroyed

in

in their natural Texture, and the more rigid and ſaline Parts, by a Combination with the venomous *Spicula*, changed into Diſpoſitions deſtructive of that Conſtitution they were before deſtined to preſerve. Whoſoever then conſiders what muſt be the neceſſary Conſequences of ſuch an immediate Depravation and Change in that Fluid, which is an abſolute Requiſite to all animal Action, will not at all wonder at any of the Affections which are commonly enumerated as the *Concomitants* of a Contagion; and a tolerable Acquaintance with the OEconomy, by the Help eſpecially of the Authors before referred too, on *Fevers* and *Poiſons*, will enable any one to account ſeverally for their Production.

THIS then being the Caſe of a *Contagion*, that a Perſon having a Fever, critically throws off poiſonous *Effluvia*, which were generated during ſuch irregular Motions of the animal Fluids, inſomuch as to diffuſe for ſome Diſtance round, what will infect other Perſons within their Reach; and that ſo many have got this Infection, that no Part of the Air, for ſome Tract of the Country together, is free from them; the poiſonous *Atmoſpheres*, if they may be ſo termed, of the infected,

extending and mixing into one univerſal, common *Contagion*; this, I ſay, being the Caſe here under Examination, why any at all ſurvive, muſt be owing either to the Goodneſs of their Conſtitution, or to proper Means to defend againſt its Infection, or to conquer it when received; which naturally brings us to conſider theſe two important Ends, of *Preſervation* and *Cure*.

AS for the *Firſt* of theſe, the common Experience, of meaner People being moſtly carried off, admoniſhes all to live upon as nutritive and generous a Diet as can be procured; and ſuch Things as not only yield due Nouriſhment, but Plenty of Spirits, and what eaſily perſpires. For there are many Things of good Nouriſhment, that are not eaſily perſpired; ſuch as all light and viſcid Subſtances, as Pork, Fiſh, and the like, which therefore are very apt to go into Fermentation, and generate Corruption; in ſhort, whatever even the common People have Notions of, as apt to bring Surfeits, ought to be avoided, and ſuch Means of Subſiſtance complied with, as generate a warm, rich Blood; and in Proportion to the Ways of Living at other times, ſhould every one, except thoſe who accuſtom themſelves to Riot and Exceſs, indulge himſelf at a higher Rate, ROAST-

ROASTED Meats are by all preferred to boiled; and if Pickles and high Sauces are ever to be encouraged, it is on theſe Occaſions; and *Garlick*, *Shallot*, *Onions*, &c. are extreamly ſerviceable, and preferable to the hot, dry, ſpicy Seaſonings, becauſe their pungent Volatility ſeems naturally covered with a Softneſs, or balſamick Quality, more agreeable to the Nature of animal Spirits. To which Purpoſe it is very remarkable, that in the Hiſtories of many Peſtilences, Notice is frequently taken of the Exemption of *Jews*, and People who deal much in ſuch Fare, from Infection. And it is cuſtomary with ſome experienced Sailors, to lay in great Stores of ſuch Things againſt their Arrival at infected, and unwholſome Countries.

THERE is alſo a very ſtrict Regard to be had to the Firmneſs and Strength of the Solids, which is greatly aſſiſted by moderate Exerciſes, but carefully avoiding too much, and every Thing that occaſions too great an Expence of Spirits at a Time, and particularly by over-Warmth. But to this Purpoſe I cannot conceive any Thing more ſerviceable than frequent Immerſion in

cold

cold Water, ſo that the Times of ſtaying in are as ſhort as poſſible, the Good received hereby being chiefly in the firſt Shudder and Conſtriction; and it is particularly to be remembred, tho' Dr. *Hodges* hath omitted it in his Account, that Watermen, and others, whoſe Occaſions imployed them much upon the River, and in the Cold, ſuffered leaſt in the late Sickneſs. The Uſe of *Vinegar*, and other *Acids*, are alſo of Service for the like Intention.

AS to the Preſervative Means, which the Government have power to provide, there is a Bill juſt now paſſed in Parliament, under the Direction of the beſt Judges in ſuch Matters, and which ſeems to have omitted no human Methods to guard againſt the Approaches of ſuch a dreadful Invader: Yet in the Courſe of an accidental Converſation a little time ſince, I met with ſomewhat ſuggeſted, which I cannot but preſume, would very much conduce to this great End; and that is, ſuch a Regulation of the common Bills of Mortality, as might very nearly aſcertain the Diſeaſe, of which every Perſon dies; for as they are now ordered, there is nothing to be depended upon from them. And this is propoſed to be done, not only in

London,

London, and other great Cities, but throughout the whole Kingdom, by obliging Phyſicians, Surgeons, Apothecaries, or any the moſt competent Judges, who attend upon the Sick, or can be informed of the State of the Diſeaſe, to give It in Writing to a proper Regiſter, conſtituted for that purpoſe. Such a Method as this, if duly practiſed, ſeems not only very effectual to give timely notice of the approaches of any Peſtilential or Contagious Diſtempers, but alſo to ſupply us with ſuch Accounts of the Riſe, Progreſs, Aggravations, and Remiſſions of other Diſeaſes, as would be of very great Service to the Learned.

THERE may perhaps lie an Objection with ſome againſt this Practice, from the hazard it puts the Reputation and Memory of ſome Perſons to, whoſe Caſes will not well bear ſuch Inquiry; but it is to be imagined, that ſo private an Inconvenience may not be made a bar to a very publick Benefit: Beſides, ways may poſſibly be found to anſwer this main end, of knowing the Numbers carried off by certain Diſtempers, without expoſing the particular Perſons ſo dying.

AS to the great uſefulneſs of a Regulation in the Bills of Mortality, every one may be very well appriſed from the advantages made even from the wretched Account we are now ſupply'd with: And as to the Diſtemper under Conſideration, in particular, we are able to trace in them its gradual Progreſs, Height and Declention; which therefore ſhall be here inſerted, as extracted from the Bills of thoſe calamitous Times.

Anno 1664. Died of the *Plague*:

From the 20th of *December*, to the 27 —	1
The following *Six Weeks* —	0
From the 7th of *February*, to the 14th —	1
The following *Nine Weeks* —	0
Anno 1665.	
From the 18th of *April*, to the 25th —	2
The following *Week* —	0
From the 2d of *May*, to the 9th —	9
From the 9th of *May*, to the 16th —	3
From the 16th of *May*, to the 23d —	14
From the 23d of *May*, to the 30th —	17
From the 30th of *May*, to the 6th of *June*	43
From the 6th of *June*, to the 13th —	112
From the 13th of *June*, to the 20th —	168
From the 20th of *June*, to the 27th —	267

From

From the 27th of *June*, to the 4th of *July* 470
From the 4th *July*, to the 11th —— 725
From the 11th of *July*, to the 18th —— 1082
From the 18th of *July*, to the 25th —— 1843
From the 25th of *July*, to the 1ſt of *Auguſt* —— —— 2010
From the 1ſt of *Auguſt*, to the 8th —— 2817
From the 8th of *Auguſt*, to the 15th —— 3880
From the 15th of *Auguſt*, to the 22d —— 4237
From the 22d of *Auguſt*, to the 29th —— 6102
From the 29th of *Auguſt*, to the 5th of *September* —— —— 6988
From the 5th of *September*, to the 12th 6544
From the 12th of *September*, to the 19th 7165
From the 19th of *September*, to the 26th 5533
From the 26th of *September*, to the 3d of *October* —— —— —— 4929
From the 3d of *October*, to the 10th —— 4327
From the 10th of *October*, to the 17th 2665
From the 17th of *October*, to the 24th 1421
From the 24th of *October*, to the 31ſt 1031
From the 31ſt of *October*, to the 7th of *November* —— —— 1414
From the 7th of *November*, to the 14th 1050
From the 14th of *November*, to the 21ſt 652
From the 21ſt of *November*, to the 28th 333
From the 28th of *November*, to the 5th of *December* —— —— 210

From

From the 5th of *December*, to the 12th 243
From the 12th of *December*, to the 19th 281

IT ſeems a Point yet in Diſpute, whether great Fires at ſuch a Time are of Service or hurtful, which to me is ſomewhat wonderful, becauſe whoſoever conſiders the Neceſſity for Air in Reſpiration, and by what Quality it becomes of ſuch real Service to the Preſervation of Life, cannot think ſuch Fires proper, becauſe they deſtroy that very Property in the Air; which is demonſtrable by innumerable Experiments. As to the Diſſipation indeed of peſtilential Vapours, or their Deſtruction in any Manner, they undoubtedly may do Service, in ſome particular Circumſtances. And what Fires common Occaſions require at ſuch Times, are rather to be made with ſuch Subſtances as abound with, and yield a nitrous Salt, becauſe that ſeems to be the chief Support of the vital Property in the Air, and ſuch are our common Coals; for every one knows how much more all Wood-Fires are ſuffocating, and give a Languor, and Flatneſs to the Spirits.

PRESERVATIVE Fumigations are largely talked of by all, on theſe Occaſions, and they with good Reaſon deſerve to be practiſed,

practiſed, becauſe while the Poiſon is on Float in the Air, it may undoubtedly be entangled ſo as to loſe its Power of acting as ſuch; but then for this Purpoſe ſuch Things ought to be uſed as exhale very ſubtile Sulphurs, as the ſpicy Drugs and Gums. And on this Account I ſuſpect Wood-Fires to be bad, becauſe they raiſe into the Air a very groſs and viſcid Humidity, which is not only very unfit to lay hold on, and unite with, the extreamly minute Agents that are to be provided againſt, but alſo carry into the Lungs with the Air in Reſpiration, ſuch Particles, as diſpoſe of themſelves to Viſcidities, and ſuch Changes in the Blood, as are the Production of the worſt Fevers, without any other co-operating Cauſe; for the Fire only forces out that Moiſture, which, while a Tree, is in its Growth, naturally perſpires from it; and how an Air ſo impregnated is like to be of Service againſt a Peſtilence, any one may ſoon be a Judge, who conſiders thoſe Kinds of Fevers which are moſt commonly epidemical in wood-land Countries.

SUCH Drugs however as are from a vegetable Production, and abound with ſubtile, volatile Parts, are of Service to be exhaled into the Air this way, both by their Fitneſs

to

to join with, and cover thoſe venomous *Spicula* that are on float; and to mix with the Animal Fluids by Reſpiration and Inſinuation into the Pores, whereby they convey, as it were, an *Antidote*, whereſoever the Poiſon is able to penetrate, and which groſſer Vapours can by no means do.

OF this kind are chiefly *Storax*, *Benjamin*, *Frankincenſe*, and all the Aromatick Roots and Woods; and amongſt them all, I cannot think the Smell of *Tar*, *Pitch*, &c. is inferior in any Reſpects, where its Scent is not particularly offenſive. And theſe Things ſhould be burnt at ſuch Diſtances of Time from each other, that the Air may be always ſenſibly impregnated with them.

BUT as ſome have ſad Apprehenſions from the Air being ſtill, and as it were ſtagnant at ſuch Times, and not without good Reaſon, as it favours the Collection of poiſonous *Effluvia*, and aggravates an Infection; for the Prevention of which, it is propoſed at certain Intervals to fire off great Guns, and the like: I cannot but imagin, that for this End, it would be much more effectual to let off ſmall Parcels of the common *Pulvis Fulminans*, in ſuch Openings of a large Town, as

Squares

Squares and Market-Places; for whoſoever hath been accuſtomed to any Experiments with this Compoſition, muſt have perceived a much greater Shock given to the Air by its Exploſion, than by the largeſt Pieces of Ordnance; inſomuch that if any Objection can lie againſt the Practice of this in *London*, ſhould there be Occaſion, it is the craſie Condition of the City Buildings, which perhaps may not well ſtand its Shocks, were they to be made with good Quantities of it at a time.

THE Matter likewiſe of this Compoſition in ſome Meaſure beſpeaks its Uſefulneſs for theſe Purpoſes on other Accounts, beſides its *Elaſtick* Force, becauſe it diffuſes into the Air great Quantities of that nitrous Salt, which is known to add much to its Serviceableneſs in Life: And whoſoever conſiders how much cheaper this is to be procured, and how much eaſier practiſed, than the firing off Guns, eſpecially in the Middle of great Towns, cannot but be deſirous to try it, in Caſe of ſuch Calamities as are now with too much Reaſon feared; it may not therefore be unacceptable to give its Compoſition here.

℞ *Sal. Nitri Partes* iij. *Sal. Tartari P.* ij. *Sulphuris P.* j. *optime miſceantur in Mortario, parùm tepefacto, & ſervetur ad uſum vaſe bene obturato.*

THIS is order'd in a warm Mortar, and to be kept cloſe, becauſe the *Salt of Tartar* is apt to imbibe a Moiſture from the Air, which hinders its Exploſion. A Drachm or two put in as cloſe a Heap as poſſible upon an Iron Plate over any Fire, will in a little Time go off with a Report and Concuſſion beyond that of any Gun whatſoever; ſo that in a calm Seaſon, and an infected Air, great Services may undoubtedly be had from its frequent Practice.

YET beſides the Helps for this End from common Diet, and Way of Living, Aſſiſtances may alſo be had from Medicinal Preſervatives, ſuch as thoſe commonly termed *Antidotes*, conſiſting of ſpicy volatile Particles, which afford a natural *Pabulum* to the animal Spirits, and by carrying into the whole Habit a fine ſubtle Oil, the better ſecure them againſt thoſe Contagious *Spicula* which are in Readineſs to mix with them; and for this Purpoſe, we are furniſhed with a moſt elegant and uſeful Medicine, ſince many Authors of Note have

have wrote on this Subject, which is the *Sal Volotile Oleoſum*, if it be well loaded with the eſſential Oils of Spicy Ingredients; although indeed with ſome Conſtitutions more fetid Compoſitions are very ſuitable; but they all agree in carrying into the Habit ſomewhat that both recruits, and guards the Spirits againſt any foreign Mixture, or from unnatural Separations of their ſaline and humid Parts. And to the ſame End, in robuſt Conſtitutions, who have been accuſtomed to fare hard, the Spirit or Oil of *Turpentine* frequently drank in ſmall Doſes might be a great Means to preſerve the poorer Sort from Infection.

AS to the curative Part in ſuch a terrible Viſitation, it cannot be expected that Rules can be given ſuitable to every one's Caſe but by ſuch as attend upon them; and the moſt that can be in general laid down to this Purpoſe, may be collected from the preceding Treatiſe of Dr. *Hodges*. Although as to the Choice of *Alexipharmicks*, they are certainly beſt that are moſt ſubtile, and capable of being carried, by the Courſe of Circulation, into the fineſt Receſſes of the Conſtitution, whereinto it is manifeſt the extream Subtilty of the peſtilential Poiſon is capable to enter: And amongſt all of this Claſs, I take *Camphire*

to be much the more preferable; which therefore I would propoſe not only to be repeated in proper Doſes to an infected Perſon, till a due *Criſis* is obtained, but alſo now and then given to thoſe who are well, by way of Prevention. And becauſe ſome Perſons will be pleaſed with ſome general *Formulæ* to theſe Purpoſes, the following are offered to be complied with, or varied, at every one's Diſcretion, who is a Judge of ſuch Matters.

℞ *Conſerv. Rutæ, Flor. Roriſmar. ana* ℥ j. *Species diambræ ſine odoratis* ʒ j. *Balſam. è Mechâ* ʒ ſs. *pulv. Croci angl.* ə j. *Syr. Balſam. q. ſ. ut F. Electuarium, cujus ſum. quantitatem N. M. omni mane, & horâ ſomni ſuperbibendo Hauſtulum Vini albi Lisbonenſis, vel Hiſpanici, tepefacti.* To the Night Doſe of this, may be added ſometimes 2 or 3 Grains of *Camphire*, eſpecially if a Perſon feels any Indiſpoſition that requires a breathing Sweat; ſome may perhaps like the following better.

℞ *Conſ. Rutæ* ℥ j. *Mithrid.* ℥ ſs. *Pulv. Fol. Scordij* ʒ j. *rad. Contrayerv. Serpentarij* Virgin. *ana* ʒ ſs. *Sal. volat. Viperar. Croci angl. ana* ə j. *Syr. Balſam. q. ſ. ut f. Elect. ſumend. eodem modo.*

Or,

Or,

℞ *Confect.* Tracaſtorij *ſine Melle, Mithrid. ana* ℥ ſs. *Boli veri, Terræ* Japon. *ana* ʒ j. *Caſtor. Salis ſuccin. Croci angl. ana* ℈ j. *Confect. Alkerm. ſine odoratis q. ſ. ut F. Electuarium ad uſum prædictum, precipue h. ſomni.*

SINCE the former Impreſſion, I have received from a Friend, who is both very inquiſitive and communicative in theſe Matters, the two following Preſcriptions of one *Johnſon*, a Surgeon of Note and Eminence, who had great Experience in peſtilential Diſtempers, during a long Reſidence at *Tangier*, in the Reign of King *Charles* II. The firſt of them is under the Title of *Electuarium Cardiacum*, as follows:

℞ *Rad. ſerp. Virg. Piper. long. Valerian. Angel. Hiſp. Zedoar. Z. Z. ana* ʒ j. ſs. *Petaſit. Imperat. Cortic. Cinnam. Aurant. Sapaff. Bacc. Lauri Myrrh. fol. Ruta Scord. Calaminth. Schænath. ana* ℥ j. *Rad. Contrayer. Croc. Angel. Cochin. ana* ʒ ſs. *Pulv. Vip.* ʒ ij. *Camph.* ʒ ij. *cum melle Trip. quant. ſpecier. & vin. canarinæ q. ſ. f. Elect.*

WITH this the Author reports to have done very great Service Abroad, in Fevers of the worſt kind, and thoſe deemed in the higheſt Degree peſtilential. The following alſo he uſed in like Intentions with very good Succeſs, eſpecially where the Patient was threatned with Fluxes:

℞ *Ter. Japon. Bol. Ver. Cinnam. Menth. Scord. Gum Arab. ana* ℥ j. ſs. *Rad. Torment. quinquefol. Fiement. Cort. Aurant. Gland. Querc. Sang. Dracon. Z. Z. ana* ℥ j. *cum Syrupo de mecon. q. ſ. F. Elect.*

THE ſame Mr. *Johnſon*, who hath ſince practiſed in *London* with good Reputation and Succeſs, publiſhed in a little Tract, that perhaps few have met with, ſome general Medicines for the ſame Purpoſes, which are thought to be worth Inſertion here.

An Alexipharmick Water.

℞ *Rad. Angelicæ, Contrayervæ, Serpentariæ, Virginiæ, Zedoariæ, Cort. Cinnamomi ana* ℥ vj. *Cort. exter. aurantior. Citri, limon, witerian, pimenti*

pimenti vel piperis Jamaica, rad. gentiana, Z. Z. ana ℥ iiij. *Garybil. macis, nucis, moſhata, ſem. Cardamomi, Cardui, Carui, Cubebar. Bac. Junip. lauri ana* ℥ iij. *Cochenela, Croci Britan. Troch. de Viperis ana* ℥ ij. *ſol. angelica, Cardui, Benedicti, dictamni Cret. galega, majorana, meliſſa, mentha, pulegii, ana m.* ij. *flor. anthos, Calendula, Centauri min. lavendula, ana m.* j. *Camphora* ℥ ſs. *mithridatii, ther. Andromachi ana* lib. ij. *Contundenda Contundantur, & cum aqua Cardui benedicti, ſpirit. Vini rect. & Vini Canar. ana* lib. xij. *aceti flor. tunica, ſuc. acetoſa, limon. ana* lib. ij. *in vas idoneum immittantur bene obturatum, ut per duas hebdomadas inſolentur, vel in hypocauſto, vel B. M. macerentur: tum demum per Alembicum diſtillentur; & hinc inter diſtillandum paretur Extractum, aſſervandum ſub nomine Extracti Alexipharmaci.*

THIS Water is the beſt I have met with for the Agreement of the ſeveral Ingredients in the ſame Intention; as alſo is the following a moſt efficacious Anodyne and Sudorifick.

An Anodyne Tincture.

℞ *Spirit. vini Tartariſati* lib. x. *Opii Theb.* lib. ſs. *pul. Caſtorei, Cochenelæ, Croci, Garyophil. nucis moſchatæ, zedoariæ, rad. ſerpentariæ Virginiæ, Camphoræ ana* ℥ ij. *ſulphuris vitrioli* ℥ j. *miſce, ac inſolentur aut hypocauſti, aut Balnei calore digerantur vaſe vitreo, ſubere & veſica clauſo, bis tervè indies agitando: fiat expreſſio, & Tinctura per reſidentiam depurata, ſervetur ad uſum.*

HE alſo recommends a very warm *Diaphoretic Extract* in the following Manner:

℞ *Opii Theb.* lib. ij. *fiat Tinctura cum Aceto diſtillato primum, deinde cum ſpirit. vini rect. parata; tum demum in ol. Tartar. per deliq.* lib. ij. *diſſolvatur; ſolutum percoletur, poſtquam evaporatione factâ ad tepidum Balnei calorem, in formam Extracti coaguletur. Tam* ℔ *ſal. volat. ſalis Armoniaci, C. C. Cranii humani, ſuccini, Tartari, viperarum ana* ℥ ij. *Extract. Caſtorei Contrayervæ, Croci, gentianæ, ſerpentanæ, Virginiæ, ſpicæ nardi per vini ſpiritum anæ* ℥ iiij. *pul. Bezoar. Orientis, Bezoar. mineralis, Bezoar. ſolaris, Camphoræ, Cochenelæ, Coral. rub. margeritarum ana* ℥ iij. *ſuc. Kermes, Mithridatii, Theriac.*

Theriac. Androm. ana lib. ſs. *ol. macis per expreſs. Balſ. de Gilead. ana* ℥ j. ſs. *ol. Chymic. Abſinthii Cinamomi, Caryophil. limon. juniperi, majoranæ, roriſmar. ſaſſaphras ana* ℥ ſs. *affatim miſceantur, & vaſe idoneo optimè clauſo digerantur, & uſui Extractum reponatur.*

THE following Powder is alſo given for the ſame Purpoſe, which altho' ſomewhat elaborate, and troubleſome in its Preparation, yet ſeems very well to deſerve Recommendation.

An Antipeſtilential Powder.

℞ *Antimonii per longas venas ſcintillantis, ſalis communis, ſalis Tartari, ana partes æquales. Antimonium ſeorſim teratur, & additis cæteris, ſimul redigantur omnia in pulverem: pulvis iſte ſenſim, ſeu partitis vicibus, cum cochleari vel alio quovis inſtrumento commodo immittantur in crucibulum candens; & cum univerſa fuerit deflagratio, ac ſtridor ceſſaverit, ab igne amoveatur, ut quamprimum refrigeſcat: tandem confracto vaſe, a ſcoriis liberetur, & in pulverem reducatur. Pulvis quinam multiplice ablutione in aqua tepenti pura edulcorandus, lento calore exſiccandus, & ad uſum reponendus. Tum* ℔ *hujus pulveris* lib. ſs. *cochenelæ, croci Britan. ſal. volat. ſalis Armoniaci C. C. ana*

ana ℥ j. *Bezoar. mineralis* ℥ ſs. *Bezar. orient.* ʒ ij. *Camphoræ* ʒ j. *miſce, fiat pul. ſubtiliſſimus.*

FOR thoſe who ſeem to think theſe warm *Alexipharmicks* liable to overheat, or rariſie the Blood, and in Caſes where ſuch an Exceſs beſpeaks Reſtraint, the ſame experienced Perſon recommends the following:

℞ *Spirit. Nitri rectificat, ſpirit. ſalis, ol. ſulphuris per Campanam, ol. vitrioli ana* lib. ſs. *ſpirit. vini rect.* lib. iiij. *miſce, fiat per ſex ſeptimanas digeſtio in vaſe optimè clauſo, facta agitatione frequenti, poſtea diſtillentur per B. M. in vaſe vitreo.*

I think it not poſſible to do any Service, by particular Directions for the Uſe of ſuch Medicines as theſe, to every one who may be taken ſick; becauſe the Variety of Circumſtances in the ſame Diſtemper will always require the immediate Government of competent Judges: moſt of theſe therefore are here publiſhed rather for the Remembrances of ſuch, than for the Encouragement of unskilful Perſons to riſque their Lives upon their own Management.

BESIDES

BESIDES the uſe of theſe, under the Direction of thoſe who are proper Judges, either for Prevention, or Cure; ſome Security may poſſibly be had from odoriferous Subſtances to ſmell to, eſpecially at a Time of converſing with the infected; for which Purpoſe, I know of nothing ſo grateful and efficacious, as the *Volatile Sal Armoniac*, well impregnated with the eſſential Oils of Aromatick Ingredients; and as it is to be procured dry, to be kept in ſmall Bottles, from a careful Diſtillation of the common *Sal Volatile Oleoſum*. But if in any Caſes more fetid Subſtances are preferable, Compoſitions may be eaſily made of ſuch from *Rue*, *Featherfew*, *Galbanum*, *Aſſa-fœtida*, and the like; for theſe, with ſome Perſons, agree better than more grateful Scents; beſides, in ſultry Seaſons of the Year, and where Refrigeration is rather wanted, aſſiſtances may perhaps be better had from acid and cooling Flavours, ſuch as are afforded by many Herbs, Flowers and Fruits.

FREQUENTLY to diſſolve in the Mouth the following *Lozenges*, or ſomething like them, I alſo imagine may be of Service; eſpecially to thoſe who are converſant in infected Places.

℞ *Boli*

℞ *Boli veri opt.* ʒ j. *Terræ* Japon. ʒ ij. *Coral. rub. Margarit. opt. levigat. Flor. Benz. ana* ʒ j. ſs. *ol. Cinnam. gut.* xij. *Sacchar. albiſſ.* lib. j. *Mucelag. Gum. Tragacanth. in aq. Roſar. Damaſc. q. ſ. form. in Troch. ad uſum præditum.* For thoſe who like it, may be added ſome *Ambergreaſe*; enough to give a light Scent of it.

PRESERVATORY Evacuations of all kinds are much diſputed in theſe Caſes, and not worth our particular Regard in this Place; for thus much is plain to all who are competent Judges in ſuch Matters, that but very few Circumſtances can juſtifie them; becauſe every Evacuation, unleſs that of Perſpiration, gives more Liberty for any Thing noxious without, to inſinuate into the Pores, as there is made thereby leſs Reſiſtance to its Admiſſion; not to ſay any Thing of the Danger in ſuch a Practice, by leſſening at the ſame Time the Quantities of Spirits and Strength, which cannot but be miſchievous: And particularly ought all Perſons at ſuch Times to avoid too lax a Temper of Body; for which Purpoſe, theſe preſervatory Means juſt hinted at, moſtly tend to aſtringe the Bowels, and increaſe Perſpiration.

12 AP 58.

FINIS.